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PART B
SOLAR - GEOPHYSICAL DATA

ISSUED
SEPTEMBER 1961

U. S. DEPARTMENT OF COMMERCE
NATIONAL BUREAU OF STANDARDS
CENTRAL RADIO PROPAGATION LABORATORY
BOULDER, COLORADO

SOLAR - GEOPHYSICAL DATA

CONTENTS

I DAILY SOLAR INDICES

- (a) Relative Sunspot Numbers and 2800 Mc Solar Flux - July - August 1961
- (b) Graph of Sunspot Cycle

II SOLAR CENTERS OF ACTIVITY

- (a) Calcium Plage and Sunspot Regions - August 1961
- (b-d) Final Coronal Line Emission Indices - April - June 1961
- (e-f) Provisional Coronal Line Emission Indices - July - August 1961

III SOLAR FLARES

- (a-d) Optical Observations - August 1961
- (e) Flare Patrol Observations - August 1961
- (f) Subflares - July 1961
- (g-h) Optical Observations - May 1961
- (i) Flare Patrol Observations - May 1961
- (j-k) Ionospheric Effects (SWF-SEA-SCNA-SPA-Bursts) - July 1961

IV SOLAR RADIO WAVES

- (a) 2800 Mc - Outstanding Occurrences (Ottawa) - August 1961
- (b) 169 Mc - Interferometric Occurrences (Nangay) - August 1961
- (c) 108 Mc - Outstanding Occurrences (Boulder)- August 1961

V COSMIC RAY INDICES

- (a) Climax Neutron Monitor - July 1961
- (b) Deep River Neutron Monitor - July 1961
- (c) Solar Injection Deep River Graph - May 4, 1960

VI GEOMAGNETIC ACTIVITY INDICES

- (a) C, Kp, Ap and Selected Quiet and Disturbed Days - July 1961
- (b) Chart of Kp by Solar Rotations - 1961

VII RADIO PROPAGATION QUALITY INDICES

- (a) CRPL Quality Figures and Forecasts - North Atlantic and North Pacific - July 1961
- (b) Graphs Comparing Forecasts and Observed Quality - North Atlantic and North Pacific - July 1961
- (c-d) Graphs of Useful Frequency Ranges - July 1961

VIII ALERT PERIODS AND SPECIAL WORLD INTERVALS

- (a) Alerts and SWI - August 1961

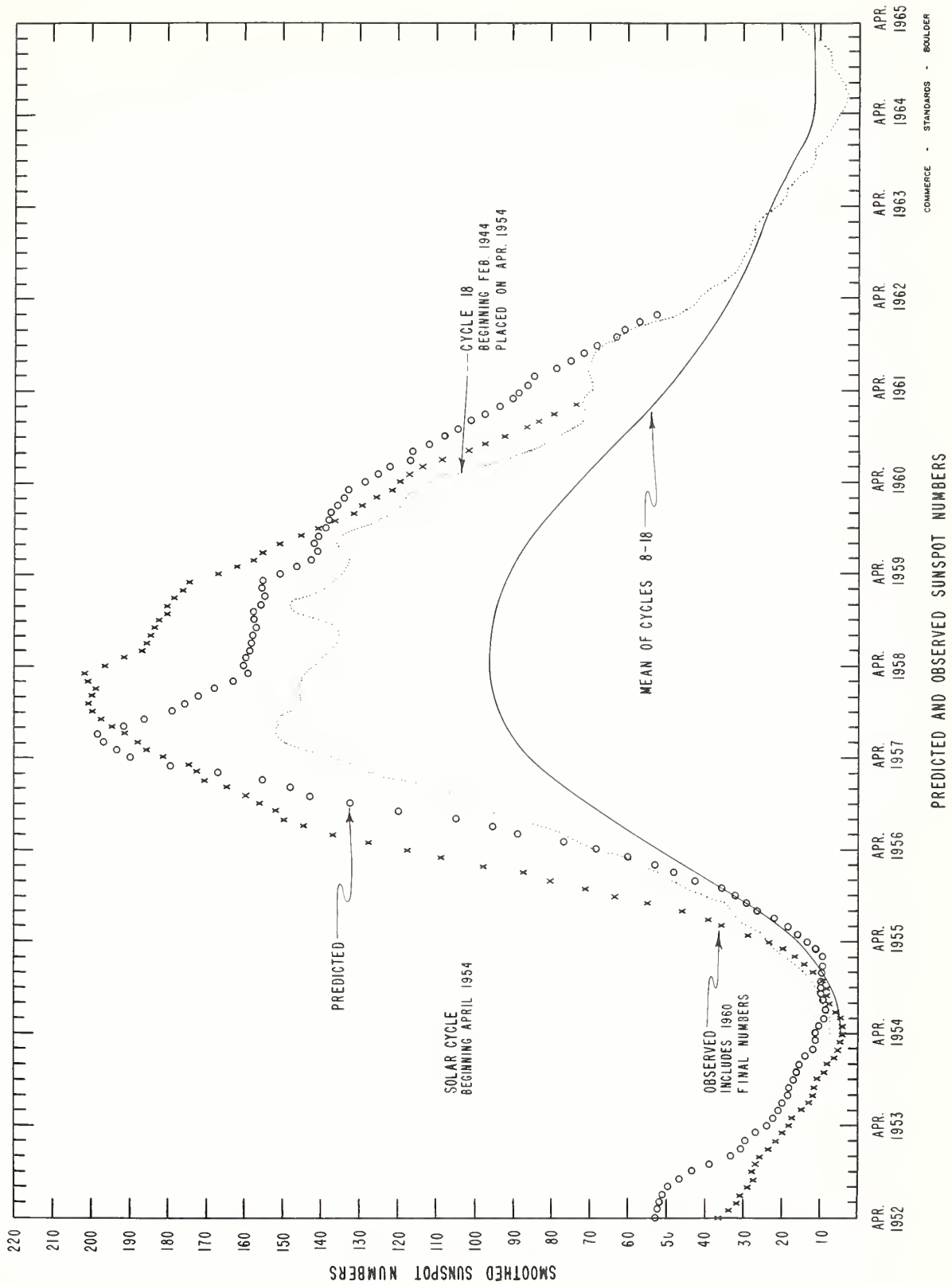
The descriptive text was published separately, November 1960.

DAILY SOLAR INDICES

JULY 1961

July 1961	American Relative Sunspot Numbers R_A'
1	50
2	57
3	65
4	50
5	37
6	56
7	54
8	45
9	60
10	70
11	78
12	78
13	74
14	95
15	99
16	88
17	83
18	74
19	78
20	66
21	63
22	50
23	65
24	55
25	58
26	52
27	33
28	33
29	30
30	26
31	33
Mean:	59.8

Aug. 1961	Zürich Provisional Relative Sunspot Numbers R_Z	Daily Values Solar Flux at 2800 Mc, Ottawa, Canada Flux
1	39	90
2	17	87
3	24	91
4	23	88
5	14	90
6	11	92
7	9	99
8	27	105
9	51	113
10	68	122
11	92	130
12	84	128
13	92	128
14	100	127
15	108	123
16	98	119
17	85	119
18	64	116
19	69	113
20	43	109
21	51	104
22	33	103
23	29	98
24	33	97
25	47	93
26	45	95
27	54	95
28	36	100
29	60	103
30	62	106
31	53	108
Mean:	52.3	106.2



CALCIUM PLAGE AND SUNSPOT REGIONS

AUGUST 1961

CMP August 1961	Lat	McMath Plage Number	Return of Region	Calcium Plage Data				Sunspot Data			
				CMP Values		History, Age		CMP Values		History	
				Area	Int.			Area	Count		
01.0	N11	6182	6163	1200	2	$\ell - \ell$	2				
02.8	S22	6187	New	1800	3	$\ell \searrow \ell$	1	50	1	$b \wedge d$	
03.3	N16	6184	6164	2800	3	$\ell - \ell$	3	60	5	$\ell \searrow d$	
04.9	N12	6188	6164	1200	2.5	$\ell - \ell$	3				
08.2	S10	6196	New	(500)	(2)	$b \nearrow \ell$	1				
08.5	N04	6192	6168	400	2.5	$b \wedge d$	6				
08.9	N17	6197	New	(300)	(3.5)	$b \nearrow \ell$	1	90	9	$b \nearrow \ell$	
09.8	S08	6191	6171	2900	3	$\ell - \ell$	3				
11.7	S15	6198	6171	800	2	$b \wedge d$	3				
12.4	N15	6193	6172	1200	2.5	$\ell - \ell$	3				
13.9	S07	6194	6173	2600	2.5	$\ell - \ell$	3	60	2	$\ell \searrow d$	
14.3	N13	6195	New	5800	3	$\ell - \ell$	1	140	5	$\ell \searrow \ell$	
16.4	S04	6200	New	2300	3	$\ell - \ell$	1	20	1	$\ell \searrow d$	
16.8	N12	6199	*	6200	3	$\ell - \ell$	1	380	4	$\ell - \ell$	
18.6	N17	6202	6183	400	1.5	$\ell \searrow d$	2				
18.9	N01	6201	6176	2200	3	$\ell - \ell$	2	180	4	$\ell \searrow d$	
20.1	S15	6203	New	1600	3	$\ell - \ell$	1				
21.2	N09	6204	6178	2400	3	$\ell - \ell$	3	50	1	$\ell \searrow d$	
23.2	N18	6205	6179	1400	3	$\ell \wedge \ell$	3				
25.8	N20	6206	6180	1200	3	$\ell \nearrow \ell$	3	300	9	$b \nearrow \ell$	
26.9	N10	6208	6180	900	3	$\ell - \ell$	3				
27.0	S14	6207	**	2100	3	$\ell - \ell$	2	20	2	$\ell \searrow d$	
30.3	S16	6211	6187	1100	3	$\ell \searrow \ell$	2				
30.4	N19	6210	6184	2200	3	$\ell - \ell$	4				

COMMERCE - STANDARDS - BOULDER

*Primarily new, in position of 6175

**Return of a part of 6181. It formed on disk previous rotation (1 and 2).

FINAL CORONAL LINE EMISSION INDICES

APRIL 1961

CIR Apr 1961	North East Quadrant (Observed 7 days earlier)				South East Quadrant (Observed 7 days earlier)				South West Quadrant (Observed 7 days later)				North West Quadrant (Observed 7 days later)			
	G ₆	G ₁	R ₆	R ₁	G ₆	G ₁	R ₆	R ₁	G ₆	G ₁	R ₆	R ₁	G ₆	G ₁	R ₆	R ₁
1	72	83	13	27	99	146	46	94	54	98	13	29	46	54	5	14
2	68	90	10	49	120	213	44	56	24	119	22	35	35	46	11	13
3	46	70	6	6	57	70	11	4	x	x	x	x	x	x	x	x
4	44	57	7	14	29	58	7	15	x	x	x	7	x	x	x	x
5	42a	64a	17	25	25a	53a	22	30	13	20	6	7	39	64	15	30
6	21	22	x	x	11	13	x	x	10	14	6	7	34	42	11	28
7	40	52	9	11	30	42	11	16	13	15	0	0	26	31	10	32
8	32	65	7	9	15	41	6	14	17	21	13	19	24	24	8	12
9	24	32	12	15	27	71	14	22	20	23	9	17	23	25	10	14
10	20	31	8	11	30	80	9	20	16	21	11	19	22	29	7	17
11	16	20	9	13	28	53	9	22	26	50	x	x	34	44	x	x
12	17	24	30	61	17	14	13	15	15	21	6	9	25	32	5	11
13	45	52	7	14	36	46	4	16	x	x	x	x	x	x	x	x
14	43	52	7	20	45	58	1	8	x	x	x	x	x	x	x	x
15	48	81	4	8	33	36	0	0	41	64	x	x	x	123	x	x
16	56	90	11	22	29	52	6	8	x	x	x	x	x	x	x	x
17	x	x	x	x	x	x	x	x	x	40	x	x	x	x	x	x
18	x	x	x	x	x	49	x	x	x	40	x	11	41	69	3	10
19	37	47	6	7	39	49	5	6	x	x	x	x	x	x	x	x
20	47	60	4	5	60	70	5	8	56	91	x	x	50	61	x	x
21	51	63	5	7	69	97	5	10	56	104	x	x	39	48	x	x
22	92	120	12	25	56	87	15	23	56a	86a	13a	20a	67a	87a	14a	18a
23	58	81	10	16	54	126	12	25	27	32	x	x	35	49	x	x
24	58	90	9	17	52	44	9	16	10	25	x	x	28	41	x	x
25	41	50	x	x	29	32	x	x	x	x	y	x	x	x	x	x
26	32	36	3	10	26	31	10	20	x	x	x	x	x	x	x	x
27	x	x	x	x	x	x	x	x	40	48	8	16	40	63	0	0
28	x	x	x	x	x	x	x	x	105	108	x	x	x	x	x	x
29	50	73	x	x	98	162	x	x	x	x	15	20	52	134	9	24
30	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

a = index computed from low weight data.

+ = y low line observed

x = no observations

- = below threshold of visibility

COMMERCE - STANDARD - BOULDER

FINAL CORONAL LINE EMISSION INDICES

MAY 1961

CMP May 1961	North East Quadrant (Observed 7 days earlier)				South East Quadrant (Observed 7 days earlier)				South West Quadrant (Observed 7 days later)				North West Quadrant (Observed 7 days later)			
	G ₆	G ₁	F ₆	R ₁	G ₆	G ₁	R ₆	R ₁	G ₆	G ₁	R ₆	R ₁	G ₆	G ₁	R ₆	R ₁
1	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
2	41	52	13	14	x	88	13	13	34	42	x	x	35	67	x	x
3	x	x	x	x	x	x	x	x	27	30	x	x	46	63	x	x
4	40	47	x	x	x	22	x	x	18	21	1	3	34	53	3	6
5	17	19	x	x	x	17	x	x	15	18	5	8	24	33	5	7
6	32a	48a	10a	13a	22a	38a	12a	16a	32	42	0	0	32	35	0	0
7	16	17	x	x	17	22	x	x	14	22	6	10	17	20	8	12
8	29	45	x	x	17	25	x	x	7	12	5	10	15	17	12	18
9	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
10	x	x	x	x	x	x	x	x	21	28	2	6	43	65	8	17
11	66	104	15	44	25	72	0	0	18	24	3	10	60	86	9	17
12	12	x	x	x	x	x	x	x	19	27	x	x	31	116	x	x
13	107	162	25	78	41	53	19	56	37	51	x	x	87	108	x	x
14	x	x	x	x	x	x	x	x	28	39	8a	15a	67	80	7a	15a
15	x	x	x	x	x	x	x	x	23	31	x	x	27	39	x	x
16	41	45	x	x	32	48	x	x	39	47	x	x	55	74	x	x
17	59	71	x	x	63	73	x	x	x	x	x	x	x	x	x	x
18	43	52	2	5	62	78	3	7	x	x	x	x	x	x	x	x
19	37	50	5	9	52	63	10	18	x	x	x	x	x	x	x	x
20	53	56	3	10	64	91	4	10	x	x	x	x	x	x	x	x
21	34	42	6	10	30	55	7	8	x	x	x	x	x	x	x	x
22	32	40	3	5	20	24	9	14	20	35	14	25	35	55	11	12
23	x	x	x	x	33	53	x	x	34	57	2a	10a	54	84	x	8a
24	43	47	6	9	33	53	3	10	x	x	x	x	x	x	x	x
25	58	91	15	26	56	72	4	13	x	x	x	x	x	x	x	x
26	100	130	x	x	94	125	x	x	65	94	x	x	56	81	x	x
27	81	135	x	x	96	133	x	x	63	104	8	21	57	70	10	16
28	33	39	12a	23a	56	67	18a	30a	64	83	7	30	43	55	12	31
29	35	64	x	x	24	31	x	x	x	x	x	x	x	x	x	x
30	45	70	x	x	18	22	x	x	x	x	x	x	x	x	x	x
31	x	x	x	x	x	x	x	x	18	22	11	16	29	50	13	16

a = index computed from low weight data.

+ = yellow line observed

x = no observations

- = below threshold of visibility

CORONAL LINE EMISSION INDICES

FINAL CORONAL LINE EMISSION INDICES

JUNE 1961

CfP June 1961	North East Quadrant (Observed 7 days earlier)				South East Quadrant (Observed 7 days earlier)				South West Quadrant (Observed 7 days later)				North West Quadrant (Observed 7 days later)			
	G ₆	G ₁	R ₆	R ₁	G ₆	G ₁	R ₆	R ₁	G ₆	G ₁	R ₆	R ₁	G ₆	G ₁	R ₆	R ₁
1	x	x	x	x	x	x	x	x	20	31	5	12	27	56	5	12
2	30	34	x	x	52	60	x	x	58	50	0	0	26	34	0	0
3	x	x	x	x	x	x	x	x	42	87	15	27	21	28	7	20
4	x	x	x	x	x	x	x	x	44	53	x	x	47	51	x	x
5	17	21	12	20	9	20	11	17	64	106	x	x	71	114	x	x
6	x	x	x	x	x	x	x	x	59	68	10	16	52	68	6	15
7	50	61	13a	48a	26	72	12a	19a	18	28	x	x	57	98	x	x
8	39	53	x	x	25	42	x	x	15	20	x	x	41	48	x	x
9	53	75	3	11	38	74	1	4	48	59	0	0	81	134	13	25
10	58	89	0	0	41	67	2	6	23	25	6	10	39	50	2	3
11	44	60	7	19	37	49	0	0	47	87	13	16	45	59	9	12
12	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
13	x	x	x	x	x	x	x	x	37	42	x	x	58	79	x	x
14	50	70	22	48	42	73	11	16	50	82	x	x	49	70	x	x
15	52	64	23	48	43	92	15	40	x	x	x	x	x	x	x	x
16	46	56	2	6	71	126	13	36	x	x	x	x	x	x	x	x
17	45	56	6	13	80	179	13	26	x	x	20a	36a	x	x	9a	16a
18	54	73	x	x	70	83	x	x	61	106	13	26	66	100	8	20
19	30	34	x	x	52	70	x	x	x	x	x	x	x	x	x	x
20	55	66	4	15	50	59	4	10	x	x	x	x	x	x	x	x
21	54	81	x	x	75	120	x	x	70	93	13	29	66	75	5	11
22	61	90	x	x	61	113	x	x	44	73	8	15	68	95	9	18
23	106	164	25	53	125	148	16	42	73	92	10	33	110	121	21	35
24	52	73	10	20	42	59	5	7	34	48	7a	12a	58	78	13a	24a
25	62	134	23	44	40	82	16	24	29	39	9	12	42	67	22	42
26	x	x	x	x	x	x	x	x	x	x	11a	24a	x	x	19a	20a
27	55	85	x	x	29	40	x	x	20	31	13	16	59	84	22	36
28	52	74	x	x	20	50	x	x	x	x	x	x	x	x	x	x
29	x	x	x	x	x	x	x	x	14	25	x	x	x	39	x	x
30	x	x	x	x	x	x	x	x	17	25	x	x	31	39	x	x

a = index computed from low weight data.

+ = yellow line observed

x = no observations

- = below threshold of visibility

COMMERCE - STANDARDS - BOLLNER

PROVISIONAL CORONAL LINE EMISSION INDICES

JULY 1961

CLP Jul 1961	North East Quadrant (observed 7 days earlier)					South East Quadrant (observed 7 days earlier)					South West Quadrant (observed 7 days later)					North West Quadrant (observed 7 days later)				
	G ₆	G ₁	R ₆	R ₁		G ₆	G ₁	R ₆	R ₁		G ₆	G ₁	R ₆	R ₁		G ₆	G ₁	R ₆	R ₁	
1	x	x	15a	28a		x	x	9a	24a		31	61	15	24		56	67	24	36	
2	33	62	23a	26a		37	92	10a	26a		73	112	x	x		21	22	x	x	
3	x	x	x	x		x	x	x	x		27a	61a	6a	12a		47a	12a	17a	28a	
4	x	x	x	x		x	x	x	x		x	x	x	11		x	x	12	25	
5	x	x	x	x		x	x	x	x		15	22	12	24		72	132	11	20	
6	58	81	12	41		11	2	7	12		23	28	0	0		60	84	3	8	
7	x	x	x	x		x	x	x	x		x	x	x	x		x	x	x	x	
8	74	106	14a	40a		40	84	1a	4a		x	x	x	x		x	x	x	x	
9	48	62	17	24		64	146	14	32		24a	39a	12a	24a		30a	36a	10a	12a	
10	x	x	16a	42a		x	x	4a	12a		44a	62a	11	17		28a	45a	13	16	
11	52	70	23	40		27	42	15	16		42	70	x	x		38	64	x	x	
12	x	x	x	x		x	x	x	x		x	x	x	x		x	x	x	x	
13	67	98	x	x		92	252	x	x		x	x	x	x		x	x	x	x	
14	58	81	x	x		98	224	x	x		x	x	x	x		x	x	x	x	
15	44	50	14	40		53	81	20	32		x	x	x	x		x	x	x	x	
16	58	73	11a	21a		39	64	13a	16a		10	12	5	6		12	18	7	10	
17	96a	120a	14a	26a		52a	76a	25a	44a		36	55	8	11		45	88	11	19	
18	x	x	11	23		x	x	20	27		61	82	13	23		50	75	15	25	
19	87	106	17	24		65	146	17	44		x	x	x	x		x	x	x	x	
20	72	92	9	24		52	92	9	34		x	x	x	x		x	x	x	x	
21	x	x	x	x		x	x	x	x		x	x	x	x		x	x	x	x	
22	57	104	x	x		57	115	x	x		52	70	14	29		26	44	11	20	
23	77a	160a	19a	28a		53a	98a	14a	24a		x	x	x	x		x	x	x	x	
24	51a	73a	25	48		36a	73a	19	32		x	x	x	x		x	x	x	x	
25	68	107	x	x		34	53	x	x		x	x	x	x		x	x	x	x	
26	x	x	x	x		x	x	x	x		x	x	x	x		x	x	x	x	
27	x	x	x	x		x	x	x	x		10	21	11	13		29	37	12	16	
28	x	x	x	x		x	x	x	x		24	47	7	11		26	57	8	15	
29	x	x	x	x		x	x	x	x		13	22	10	12		13	15	5	8	
30	18	31	7	11		6	13	8	13		x	x	x	x		x	x	x	x	
31	40	56	5	9		15	24	6	8		x	x	x	x		x	x	x	x	

COMMERCE - STANDARDS - BOULDER

a = index computed from low weight data.

* = yellow line observed.

x = no observations.

PROVISIONAL CORONAL LINE EMISSION INDICES

AUGUST 1961

CMP Aug 1961	North East Quadrant (Observed 7 days earlier)			South East Quadrant (Observed 7 days earlier)			South West Quadrant (Observed 7 days later)			North West Quadrant (Observed 7 days later)		
	G ₆	G ₁	R ₆	R ₁	G ₆	G ₁	R ₆	R ₁	G ₆	G ₁	R ₆	R ₁
1	61	96	7	9	14	19	6	9	x	x	x	x
2	x	x	x	x	x	x	x	x	x	x	x	x
3	x	x	x	x	x	x	x	x	x	x	x	x
4	x	x	x	x	x	x	x	x	x	x	x	x
5	38	62	9	17	13	18	9	14	x	x	x	x
6	x	x	x	x	x	x	x	x	x	x	x	x
7	x	x	x	x	x	x	x	x	17	22	x	x
8	x	x	x	x	x	x	x	x	49	83	17	24
9	x	x	x	x	x	x	x	x	43a	87a	x	x
10	33	47	13	21	44	85	16	18	x	x	x	x
11	30	45	20	37	45	87	13	31	50	62	6	8
12	x	x	x	x	x	x	x	x	42	70	8	12
13	63	104	20	31	34	72	11	32	57	95	x	x
14	x	x	x	x	x	x	x	x	x	x	x	x
15	x	x	x	x	x	x	x	x	150	358	10	16
16	x	x	x	x	x	x	x	x	75	154	x	x
17	x	x	x	x	x	x	x	x	44	91	x	x
18	x	x	x	x	x	x	x	x	46	82	14	25
19	x	x	x	x	x	x	x	x	54	76	16	24
20	52	84	x	x	36	64	x	x	31	53	17	44
21	17	22	6	20	43	53	17	36	29	39	15	24
22	50a	64a	x	x	19a	34a	x	x	x	x	x	x
23	x	x	x	x	x	x	x	x	13	21	16	20
24	x	x	x	x	21	31	6	16	32	52	9	13
25	40	59	9	12	x	x	x	x	x	x	x	x
26	62	116	11	20	53	120	10	16	x	x	x	x
27	43	81	x	x	54	123	x	x	x	x	x	x
28	x	x	x	x	x	x	x	x	19	24	12	15
29	65	98	3	4	25	31	9	12	35	42	16a	32a
30	63	118	x	x	27	52	x	x	20	34	13	16
31	57	82	x	x	37	56	x	x	19	20	11	20

a = index computed from low weight data. + = yellow line observed x = no observations - = below threshold of visibility

SOLAR FLARES

AUGUST 1961

OBSERVATORY	DATE	OBSERVED UNIVERSAL TIME		LOCATION			DURA- TION — MINUTES	IM POR- TANCE	OBS. COND.	MEASUREMENTS					PROVISIONAL IONOSPHERIC EFFECT	
		START	END	MAX PHASE	APPROX.					McMATH PLACE REGION	TIME — UT	MEAS AREA Sq. Deg.	CORR. Sq. Deg.	MAX WIDTH He		MAX INT °
					LAT.	MER DIST										
[ONDREJOV WENDEL SAC PEAK	01	0707 E	0723		S10 118	6187	16 D	1	2	0709		5.00	2.00	Slow S-SMF		
	01	0708 E	0735		S21 130	6187	17 D	1	2		1.88	2.21	24			
	01	2020	2158	2013	N22 143	6180	0160	33	1						10	
[LOCKHEED	02	1806	1838	1814	S09 590	6191	32	1	1	1815	.50	4.00	10			
	03	0708 E	0755	0720	S14 140	6191	47 D	1	2		1.50	3.10	20			
		03	2227	2255	2241	S10 580	6191	28	1	1	2241	.75	3.00			
[KODAIKUN WENDEL	04	0435	0450	0445	N22 172	6180	15	1	1	0435	.40	2.00	10			
	04	1116 E	1146 D		N13 113	6184	20 D	1	2			3.00	10			
	05	0832 E	0912 D		S10 167	6191	40 D	1	1			3.00	10			
[WENDEL	06	0617 E	0633 D		S13 185	6191	16 D	1	1		.50	4.00	10			
	06	0651	0750 D		S12 130	6181	11 D	1	1			3.00	10			
	06	0748 E	0750 D		S13 185	6181	11 D	1	1			3.00	10			
[ONDREJOV SAC PEAK	06	0951 E	1016	0959	S16 185	6181	25 D	1	3	0959		3.00	10			
	06	1748	1812	1758	N18 E88	6195	24	1	2		.37	3.00	10			
	06	2028	2105	2036 U	N18 E88	6195	38	1	1		.87	3.00	10			
[WENDEL	08	1026 E	1132 D		S14 E23	6191	36 D	1	2			6.00	10			
	09	0555 E	0625 D		N18 103	6197	30 D	1	2		2.00	3.00	10			
		09	0714 E	0836	0737	N16 104	6197	32 D	1	1		2.00	3.00	10		
[BUCHAREST LOCKHEED	09	0752	0903	0753	N13 E58	6199	11 D	1	1	1714	.40	6.00	10			
	09	1710	1718	1714	N05 590	6199	8	1	1		1.45	3.00	10			
	09	1728	1828	1746	N16 E62	6199	60	1	3			3.00	10			
[WENDEL	10	0520 E	0552 D		N14 118	6197	32 D	1	1			3.00	10			
	10	0845 E	0856		N17 119	6197	11 D	1	1			3.00	10			
	10	0845 E	0900		N16 152	6197	15 D	1	1			3.00	10			
[ONDREJOV	10	1218	1225 D		N09 E75	6199	7 D	1	3	1222		6.00	10			
	10	1219	1234	1234	N07 E76	6199	15	1	1			4.25	10			
	10	1434	1456	1440	N09 E72	6199	22	1	1			3.00	10			
[WENDEL	10	1436	1445	1440	N10 E75	6199	9	1	1			4.25	10			
	10	1436	1448	1440	N07 E70	6199	12	1	1			3.00	10			
	10	1440 E	1450	1440	N10 E76	6199	10 D	1	1		2.60	4.25	10			
[LOCARNO	10	1502	1510 D		S14 E48	6194	3 D	1	2	1503		2.00	10			
	10	1506	1512		N12 E48	6195	3	1	1	1503		2.00	10			
	10	2309	2353	2320	N08 E68	6199	44	1	1	2320	1.10	2.00	10			
[LOCKHEED	10	2318 U	2328	2320	N07 E70	6199	10 U	1	1		1.44	1.48	10			
	11	0101 E	0109 D		S03 E72	6200	8 D	1	1	0105	1.03	2.47	10			
		11	0125	0135 D		N07 E66	6199	10 D	1	1	0125	1.03	2.47	10		
[BUCHAREST LOCKHEED	11	0810	0820	0812	N06 E63	6199	10 D	1	1	1856	.40	2.00	10			
	11	1851	1907	1856	S01 E60	6201	16	1	2	1856	.40	2.00	10			
	11	1956	2036	2012	S01 E90	6201	40	1	2	2012	.40	1.00	10			
[WENDEL	12	1105	1115	1108	N05 E47	6199	10	1	2	1112		1.00	10			
	12	1110 E	1115		N05 E47	6199	5 D	1	2		1.50	1.00	10			
	12	1110 E	1115		N05 E47	6199	5 D	1	2		1.50	1.00	10			

SOLAR FLARES

AUGUST 1961

OBSERVATORY	DATE AUG 1961	OBSERVED UNIVERSAL TIME		LOCATION			DURA- TION — MINUTES	IM- POR- TANCE	OBS COND.	MEASUREMENTS				PROVISIONAL IONOSPHERIC EFFECT
		START	END	MAX. PHASE	LAT.	MER DIST.				M2-MATH PLACE REGION	TIME — U T	MEAS AREA Sq. Deg.	CORR. AREA Sq. Deg.	
[MCWATH NEUDON LOCKHEED MCWATH	12	1614	1635 D	1618	N15 W50		6197	1	2	1618		2.50		S-SWF S-SWF
	12	1615	1630 D		N18 W50		6197	1	1	1714	1.90	2.20		
	12	1705	1736	1714	N05 E43		6199	1	2	1715		2.50		
	12	1707	1735		N05 E45		6199	1+	2	2052		2.80		
[KODAIKNI ISTANBUL LOCKHEED LOCKHEED	12	1710	1732	1713	N05 E43		6199	1	2					S-SWF
	12	2050	2115	2052	N05 E43		6199	1	2					
	13	0340	0348		N08 E42		6199	1	1		2.30	2.90		
	13	1020 E	1025		N07 E34		6199	1	2	1911	2.10	2.10	30	
[KYOTO WENDEL ISTANBUL ISTANBUL	13	1906	1931	1910	N03 E27		6199	1	2	1947	2.00	2.10	20	G-SWF
	13	1938	2053	1947	S01 E29		6200	1	2					
	14	0127 E	0130 D		N15 W68		6197	1	3	0127	1.44	3.00	110	
	14	0644	0700		N05 E26		6199	1	3					
[WENDEL ISTANBUL ISTANBUL WENDEL	14	0750 E	0835		N17 E03		6195	1	3					S-SWF
	14	0805 E	0820 D		S07 E03		6194	1	3					
	14	0805	0835		N08 E24		6199	1	3					
	14	0907	0934 D		S03 E60		6201	1+	3	0912		5.00		
[ZURICH CAPRI S WENDEL NEUDON	14	0908 E	0921		S02 E59		6201	1	3	0923	2.00	4.00		G-SWF
	14	0920	0925 D		N01 E59		6201	1	3					
	14	0937	1007		N15 E06		6195	1+	3					
	14	1400	1630		S05 W65		6191	150	3					
[WENDEL MCWATH CAPRI S ONDREJOV	14	1415 E	1652 D		S05 W67		6191	2+	3	1458		16.00		G-SWF
	14	1420	1620 D		S07 W70		6191	120	3	1506	5.00	9.00		
	14	1425 E	1615 D		S08 W69		6191	110	3	1442		12.40		
	14	1437 E	1455 D		S17 W66		6191	18	3	1448			2.00	
[ZURICH LOCKHEED WENDEL	14	1448 E	1540	1505 U	S07 W71		6191	52	3	1505	3.10	10.00	20	G-SWF
	14	1505 E	1645		S07 W70		6191	100	3			5.90		
	14	1708 E	1723 D		N15 W82		6197	13	3			4.00		
	15	1640	1710	1647	N12 W12		6195	30	3	1649	2.00	2.00	30	
[MCWATH MITAKA KYOTO	15	1642	1718	1649	N12 W20		6195	36	3	1650		2.50		S-SWF
	16	0032 E	0055		N11 W22		6195	23	3	0035	2.57	2.78	1.75	
	16	0202 E	0206 D		N08 E01		6199	4	3	0202	4.13		.62	
	16	0300 E	0337 D	0304	N11 W23		6195	37	3	0304	3.08	3.33	3.00	
[MITAKA MITAKA MITAKA MCWATH	16	0457	0524	0506	N13 W26		6195	27	3	0457	3.08	3.33	1.95	S-SWF
	16	0545	0611	0555	S09 W23		6194	26	3	0604	.93	1.04	1.85	
	16	1603	1730	1610	S00 E25		6201	87	3	1610		2.30		
	17	0225 E	0300		S08 W36		6194	35	3	0233	1.03	1.30	2.02	
[ISTANBUL LOCKHEED MCWATH	17	0835 E	0850 D		N09 W19		6199	15	3	2114	2.00	2.00	20	S-SWF
	17	2102	2226	2114	N07 W24		6199	34	3	2115		2.40		
	17	2105	2152	2115	N10 W23		6199	47	3					
	18	0356	0418 D	0406	N08 W27		6199	22	3	0406	1.85	2.02	3.36	
[KODAIKNI ZURICH MCWATH NEUDON	18	0400 E	0430 D		N08 W28		6199	30	3		2.80	3.10		S-SWF
	18	1225 E	1233 D		N09 W36		6199	8	3	1225		1.00		
	18	1257	1348		N10 W34		6199	51	3	1311		5.00		
	18	1305 E	1340		N10 W30		6199	35	3					

SOLAR FLARES
AUGUST 1961

OBSERVATORY	DATE JUL 1961	OBSERVED UNIVERSAL TIME		LOCATION		DURA- TION — MINUTES	IM- POR- TANCE	OBS COND.	MEASUREMENTS				PROVISIONAL IONOSPHERIC EFFECT		
		START	END	MAX PHASE	APPROX. LAT.				MER DIST	MCMATH PLAGE REGION	TIME U T	MEAS AREA Sq. Deg.		CORR AREA Sq. Deg.	MAX WIDTH H ₃₀₀₀
[CAPRI S WENDEL LOCKHEED MCMATH SAC PEAK	18	1310	1406		N11 W20	6197	1	3	1:11	1.50	1.0		S-SWF		
	18	1600	1615		N18 E51	6105	1				3.00				
	18	2038	2202	2043	N08 W37	6197	1	3	2044	3.00	3.00		G-SWF		
	18	2040	2152	2050	N08 W37	6197	1	3	2050	3.00	3.00				
	18	2046	2246	2047	N07 W37	6197	1	3		7.00	7.00				
[CAPRI S WENDEL ONDREJOV WENDEL LOCKHEED	19	0820	0923		N15 W66	6195	1	3	0908	1.40	3.00				
	19	0900	0922		N15 W71	6195	1	3		4.00	4.00				
	19	0901	0909		N15 W70	6195	1	3	0903		4.00	3.50			
	19	1102	1122		N15 W71	6195	1	3			4.00				
	19	2242	2305	2245	S10 W76	6194	1	3	2246	1.10	5.50		10		
[BUCHAREST ZURICH	20	0735	0747	0737	N24 W90	6195	1	2	1037		1.00		G-SWF		
	20	1037	1051		N03 W59	6200	1	2							
[BUCHAREST LOCARNO MEUDON CAPRI S MCMATH ZURICH SAC PEAK	22	0705	0734	0730	N07 W90	6199	1	3							
	22	1045	1115		N10 W14	6204	1	3							
	22	1045	1415	1130	N08 W10	6204	1	3			10.00				
	22	1049	1345		N07 W11	6204	1	3	1133	7.00	7.00				
	22	1117	1330	1120	N07 W12	6204	1	3	1130		6.00				
[CAPRI S LOCARNO ZURICH WENDEL MITAKA	22	1222	1239		N13 W12	6204	1	3	1222		12.00		17		
	22	1308	1652	1308 U	N07 W13	6204	1	3							
	24	1215	1320		N14 E95	6210	1	3	1314	0.50	3.20				
	24	1250	1335		N19 E34	6210	1+	3							
	25	0850	0920		S15 E14	6207	1+	3							
[ZURICH ISTANBUL LOCARNO ZURICH WENDEL WENDEL MITAKA	25	0857	0912		S14 E18	6207	1	3							
	25	0935	1020		S16 E13	6207	1	3	0857		2.00				
	25	1002	1012		S15 E14	6207	1	3							
	25	1002	1012		S14 E18	6207	1	3	1002		2.00				
	25	1002	1015		S15 E15	6207	1	3			4.00				
[WENDEL ZURICH WENDEL KYOTO WENDEL WENDEL	25	1402	1431		N16 E03	6206	1+	3							
	25	2359	0018		N15 W03	6206	1	3	2359	1.39	5.00	3.50	149		
	26	0617	0653	0638	N11 E11	6206	1+	3							
	26	0621	0640		N12 E11	6203	1	3	0626		5.00				
	26	0618	0634		S15 E04	6207	1	3			2.00				
[ZURICH WENDEL WENDEL KYOTO WENDEL WENDEL	26	0624	0631		S15 E03	6207	1	3	0624		2.00				
	26	1008	1031		S16 E02	6207	1	3			4.00				
	26	2331	0010		N16 W01	6206	1	3	2400	3.71	4.00				
	27	1104	1115	1103	S10 W10	6207	1	3			3.00				
	27	1327	1351		N20 E42	6210	1	3			3.00				
[BUCHAREST WENDEL WENDEL WENDEL STOCKHOLM MEUDON	29	0700	0739	0720	N12 W90	6205	1	3							
	29	0700	0715	0705	N12 E83	6210	1	3							
	29	0720	0740		N15 E80	6212	1	3			3.00				
	29	0722	0735	0726	N12 W93	6212	1	3							
	29	1039	1115		N12 E25	6210	1+	3	1056	3.50	3.50				
[BUCHAREST WENDEL WENDEL WENDEL STOCKHOLM MEUDON	29	1039	1150		N13 E22	6210	1	3							
	29	1039	1150		N13 E22	6210	1	3							

SOLAR FLARES

AUGUST 1961

OBSERVATORY	DATE AUG 1961	OBSERVED TIME		LOCATION		DURA- TION MINUTES	IM- POR- TANCE	ONS COND.	MEASUREMENTS			PROVISIONAL IONOSPHERIC EFFECT
		START	END	APPROX. LAT.	APPROX. LONG.				MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH H _o	
[ONDREJOV CAPRI S	29	1040 E	1112	N18 E23	6210	32 D	1	3	1055	1.80	2.20	
	29	1040	1121	N13 E23	6210	41	1	3	1047			
MITAKA MEUDON	30	0214 E	0221	N16 W57	6206	7 D	1	1	0215	1.23	2.09	134
	30	0830	0840	N18 W63	6206	10	1			4.00		
[STOCKHOLM CAPRI S	30	0930	0956 D	N20 W62	6206	26 D	1+			8.00		
	30	0932 E	0943 D	N17 W55	6206	11 D	1	3	0935	2.00	2.40	
[ONDREJOV ONDREJOV	30	0932	1000 D	N20 W59	6206	28 D	1	3	0938	1.20	2.40	
	30	0934 E	0953	N19 W61	6206	19 D	1	3	0935		2.30	
[WENDEL WENDEL	30	1231	1238	N19 W63	6206	7	1	3	1233		2.50	
	30	1320 E	1412 D	N12 E60	6212	52 D	1			4.00		
[ZURICH WENDEL	30	1400 E	1411	N12 E60	6212	11 D	1	3	1400	4.00		
	30	1529	1547 D	N18 W66	6206	18 D	1			4.00		
[WENDEL WENDEL	30	1531	1545 D	N11 E59	6212	14 D	1			3.00		
	30	1552 E	1630	N11 E59	6212	38 D	1			4.00		
[LOCARNO LOCARNO	30	1603	1620	N11 E58	6212	17	1	2	1608	2.00		
	30	1617	1634	N20 W65	6206	17	1	2	1623	3.00		
[WENDEL MCNATH	30	1823 E	1647 D	N14 W67	6206	24 D	1			4.00		
	30	1709 E	1745 D	N11 E64	6212	36 D	1	1	1719	1.86	1.22	100
[KYOTO KYOTO	30	2244 E	2303 D	N12 E56	6212	39 D	1		2253	2.06	1.64	120
	30	2321	2326 D	N13 E56	6212	5 D	1		2321			
[KYOTO MITAKA	31	0058 E	0117 D	N12 E55	6212	19 D	1+		0104	3.09	1.83	130
	31	0102	0114	N10 E53	6212	12	1+	1	0102	5.23	2.51	113
[BUCHAREST WENDEL	31	0712 E	0847	N17 W78	6206	95 D	1	2				
	31	0823 E	0850 D	S12 W07	6211	27 D	1			5.00		
[LOCARNO BUCHAREST	31	0855	0910	N14 E51	6212	15	1	2		3.50		
	31	0859	0911 D	N12 E50	6212	12 D	1			3.00		
[WENDEL STOCKHOLM	31	0859	0917 D	N12 E48	6212	18 D	1			2.10		
	31	0903 E	0908 D	N12 E48	6212	5 D	1	3	0906	1.50	4.00	
[WENDEL LOCARNO	31	1107	1125	N14 E49	6212	18	1					
	31	1235	1252	N14 E49	6212	17	1+	2			2.30	
[ONDREJOV WENDEL	31	1237	1250	N13 E47	6212	13	1+	3	1244			
	31	1238	1253 D	N12 E47	6212	15 D	1+			6.00		
[MCNATH ZURICH	31	1239	1251	N13 E48	6212	12	1	2	1242	2.50		
	31	1240	1250	N12 E49	6212	10	1	3	1240	4.00		
[CAPRI S MEUDON	31	1240 E	1252	N13 E46	6212	12 D	1	3	1242	2.00	3.00	
	31	1247 E		N12 E48	6212	11	1			2.17	2.52	13
[SAC PEAK WENDEL	31	1458	1520	N13 E45	6212	22	1	2		4.00		
	31	1502	1520	N12 E46	6212	18	1					
[ONDREJOV WENDEL	31	1506	1516	N13 E45	6212	10	1	1	1509		1.80	
	31	1621	1640 D	N19 W64	6206	19 D	1			4.00		

E = LESS THAN
D = GREATER THAN
U = APPROXIMATE
□ = NOT REPORTED

MCNATH - HULBERT
MOSCOW - GAISH
ROYAL GREENWICH OBSERVATORY,
HERSTMONCEUX
SACRAMENTO PEAK
SCHAUMSLAND
WENDELSTEIN

MCNATH
MOSCOW-G
R O HERST
SAC PEAK
SCHAUMSLAND
WENDEL

ANACAPRI - GERMAN
ANACAPRI - SWEDISH
ROYAL OBSERVATORY, CAPE OF GOOD HOPE
KIEV UNIVERSITY
KODAIKANAL
KRASNAYA PAKHRA
LOS ANGELES

ALL VALUES IN THE MAXIMUM INTENSITY COLUMN FOR SAC PEAK ARE ARBITRARY UNITS (0-40) AND FOR LOCKHEED ARE ARBITRARY UNITS (10-40). NOT PERCENT OF CONTINUOUS SPECTRUM.

SEE DESCRIPTIVE TEXT PUBLISHED NOVEMBER 1960 FOR DEFINITION OF CORRECTED AREA VALUES LISTED FOR CLIMAX, HAWAII, LOCKHEED AND SACRAMENTO PEAK.

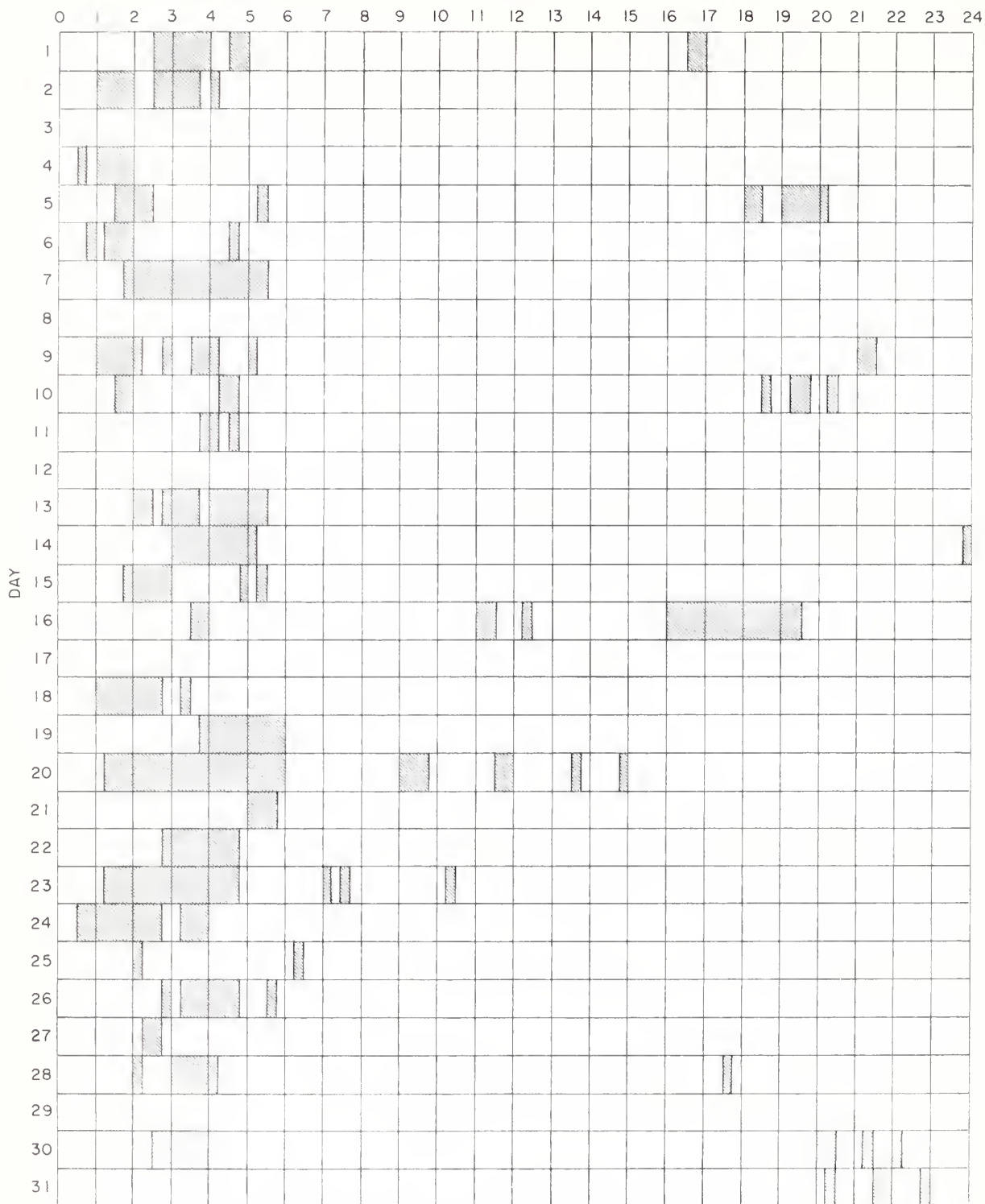
Erratum:

In ORPL-F 204 B issued August 1961, on page IIIf, the flare reported by Hawaii July 28, 1961 at 1754E at S22W33 should have been N05W44 instead. The McMath Plage Region is 6178.

INTERVALS OF NO FLARE PATROL OBSERVATIONS

AUGUST 1961

HOUR-UT



COMMERCE - STANDARDS - BOULDER

Stations Include:

Anacapri (Swedish)
Arcetri
Bucharest

Hawaii
Huancayo
Istanbul

Kodaikanal
Lockheed
Meudon

Mitaka
Ondrejov
Royal Greenwich Observatory
Herstmonceux

Sacramento Peak
Wendelstein

JULY 1961

111f

* WENDEL	01 0534 E	N06 W35	LOCKHEED	11 2313	S06 E28	UCCLE	20 1100	S06 E05
UCCLE	01 0737	N08 W41				UCCLE	20 1119	N11 E06
* UCCEL	01 0754	N07 W37	* DNOREJOV	12 0447 E	N05 W78	* UCCEL	20 1143	S07 E04
* UCCEL	01 0811	N09 W40	* BUCHAREST	12 0743	S08 E24	* WENDEL	20 1151 E	S07 E04
UCCEL	01 0902	N08 W40	* BUCHAREST	12 0743	S08 E22	* UCCEL	20 1153	S07 W06
* UCCEL	01 0939	S11 E08	* BUCHAREST	12 0752	S09 E27	* UCCEL	20 1155	S07 W04
* WENDEL	01 1000	N06 W35	* UCCEL	12 0915	S07 E24	WENDEL	20 1217 E	N07 E02
* UCCEL	01 1104	N09 W40	* WENDEL	12 0916 E	S06 E25	UCCEL	20 1253	N01 E40
* LOCKHEED	01 1609	N08 W43	UCCEL	12 0949	S09 E25	UCCEL	20 1258	S07 E03
* LOCKHEED	01 1743	N08 W45	* UCCEL	12 1001	S09 E25	UCCEL	20 1328	S07 W09
LOCKHEED	01 1852	N08 W45	* ARCTRI	12 1610	S07 E20	UCCEL	20 1346	S07 W08
LOCKHEED	01 1935	N08 W45	HAWAII	12 1748 E	S07 E16	UCCEL	20 1350	N11 E06
LOCKHEED	01 1955	N08 W46	LOCKHEED	12 1940 E	S06 E17	WENDEL	20 1356 E	N08 E61
MC MATH	01 2050	N11 E70	LOCKHEED	12 1955	S08 E14	UCCEL	20 1446	N13 W53
LOCKHEED	01 2132	N08 W46	LOCKHEED	12 2135	N09 E46	LOCKHEED	20 1740	S07 E01
MC MATH	01 2133	N09 W46	SAC PEAK	12 2136	N09 E47	LOCKHEED	20 1745	N07 E60
LOCKHEED	01 2208	N08 W46	HAWAII	12 2140 E	N08 E48	HAWAII	20 1748	N07 E01
			* LOCKHEED	12 2248	S04 E15	MC MATH	20 1830	S06 E01
			* HAWAII	12 2252 E	S06 E14	LOCKHEED	20 2110	S09 W00
			* LOCKHEED	12 2313	S09 E21	LOCKHEED	20 2116	N09 E59
			* LOCKHEED	12 2315	S05 E13	MC MATH	20 2116	S06 W02
						MC MATH	20 2116	N09 E59
						LOCKHEED	20 2233	N10 E01
			BUCHAREST	13 0706	S08 E05			
			* ARCTRI	13 0850	S05 E07	UCCEL	21 1025 E	N02 E26
			* MC MATH	13 1151	N09 E44			
			WENDEL	13 1241 E	S07 E09			
			WENDEL	13 1240 E	S11 E09	UCCEL	22 1056	N13 E35
			LOCKHEED	13 1279	S08 E10	SAC PEAK	22 1062	S08 W27
			LOCKHEED	13 1276	S06 E03	SAC PEAK	22 1350	N08 W29
			SAC PEAK	13 1930	S06 E04	SAC PEAK	22 1636	N04 E38
			HUANCAYO	13 1934	S05 E05	LOCKHEED	22 2003	N09 W25
			LOCKHEED	13 2045	N08 E80	LOCKHEED	22 2136	N03 W29
			LOCKHEED	13 2100	S07 E02	HAWAII	22 2216	N03 E07
			LOCKHEED	13 2136	S05 W01			
			LOCKHEED	13 2211	S05 E03	SAC PEAK	23 1254 U	N02 E90
			* SAC PEAK	13 2246	S04 E01	SAC PEAK	23 1542	N08 E30
			* HAWAII	13 2310 E	S04 W03	MC MATH	23 1620	N09 W36
						LOCKHEED	23 1835 E	N10 W36
			LOCKHEED	14 0018	N05 W21	MC MATH	23 1836	N10 W36
			LOCKHEED	14 0028	N11 E31	LOCKHEED	23 1945	N08 W36
			KODAIKINL	14 0110	S08 W03	LOCKHEED	23 2024	N09 W36
			KODAIKINL	14 0140	S08 W03	LOCKHEED	23 2130	N10 W36
			* KODAIKINL	14 0447	S09 W04	LOCKHEED	23 2227	N06 E15
			WENDEL	14 0703 E	S07 E00	* HAWAII	23 2342	S05 W50
			* WENDEL	14 0828 E	S07 E00			
			WENDEL	14 0848 E	S02 E02	LOCKHEED	24 0117	N05 E23
			CAPRI S	14 1020 E	S04 W04	WENDEL	24 0734 E	N06 E13
			CAPRI S	14 1041 E	S03 W07	WENDEL	24 0758 E	N09 E13
			UCCEL	14 1050 E	S03 W10	* UCCEL	24 0849	N11 E11
			CAPRI S	14 1100	S04 W07	* STDFHDM	24 0901	N08 E10
			UCCEL	14 1111	S06 W08	UCCEL	24 0902	N15 W90
			UCCEL	14 1227	S07 W06	* UCCEL	24 0906	N05 E13
			UCCEL	14 1314	S05 W08	* UCCEL	24 0910	N10 E15
			UCCEL	14 1318	S05 W07	* UCCEL	24 0939	N06 E09
			MC MATH	14 1335 E	N09 E28	STDFHDM	24 0953	N08 E10
			UCCEL	14 1410	S08 W06	STDFHDM	24 1436	S02 W16
			MC MATH	14 1410 E	S10 W05	MC MATH	24 1436	N02 W18
			LOCKHEED	14 1932	S07 E48	* MC MATH	24 1638	N02 W20
			LOCKHEED	14 2022	S03 W12	MC MATH	24 1723	N03 W21
			LOCKHEED	14 2047	S03 W11	LOCKHEED	24 1820	N08 W01
			LOCKHEED	14 2102	S11 W10	LOCKHEED	24 1838	N02 W20
			LOCKHEED	14 2251	S09 W11	LOCKHEED	24 2115	N08 W50
			LOCKHEED	14 2353	S05 W15	LOCKHEED	24 2240	N03 W22
						MC MATH	24 2241	N03 W24
			LOCKHEED	15 0047	S11 W04	LOCKHEED	24 2337	N07 E01
			HAWAII	15 0048	S10 W07			
			* PDDAIKINL	15 0425	S10 W16	LOCKHEED	25 0027	N07 E01
			BUCHAREST	15 0849	S10 W24	WENDEL	25 0517 E	N06 W01
			MC MATH	15 1336	S06 W21	WENDEL	25 0535 E	N07 E02
			MC MATH	15 1409	S06 W21	UCCEL	25 0859 E	N10 W54
			MC MATH	15 1447	S07 W22	UCCEL	25 1103	N07 W02
			CAPRI S	15 1445 E	S05 W20	UCCEL	25 1104	N10 W55
			* LOCKHEED	15 1613	S07 E55	UCCEL	25 1215	N09 W66
			CAPRI S	15 1613 E	N08 E52	MC MATH	25 1219	N07 W07
			* MC MATH	15 1616 E	S07 E56	UCCEL	25 1220	N08 W06
			LOCKHEED	15 1746	S11 W17	UCCEL	25 1221	N07 W05
			LOCKHEED	15 1758	S06 W23	MC MATH	25 1240 E	N08 W07
			LOCKHEED	15 1957	S07 W21	UCCEL	25 1241	N09 W05
			LOCKHEED	15 1918	S07 W18	UCCEL	25 1354	N08 W07
			LOCKHEED	15 2000	S09 W22	SAC PEAK	25 1354	N10 W08
			LOCKHEED	15 2100	S09 W22	* MC MATH	25 1355	N08 W08
			LOCKHEED	15 2232	S09 W22	UCCEL	25 1420	N10 W55
						* UCCEL	25 1441	N07 W05
			BUCHAREST	16 0704 E	S06 W30	* DNOREJOV	25 1445 E	N05 W05
			* CAPRI S	16 0801 E	S10 W29	UCCEL	25 1640	N05 E07
			* CAPRI S	16 0919 E	S03 W30	* LOCKHEED	25 1851	N07 W11
			MC MATH	16 1414 E	S09 W33	* HAWAII	25 1906	N08 W09
			SAC PEAK	16 1556	S05 W36	* LOCKHEED	25 2240 E	N08 W13
			LOCKHEED	16 1610	S04 W36			
			LOCKHEED	16 1624	N17 W27	UCCEL	26 0847	N09 W68
			LOCKHEED	16 1625	S09 W32	UCCEL	26 1122	N04 W17
			SAC PEAK	16 1626 E	S07 W32	WENDEL	26 1539 E	N07 W20
			LOCKHEED	16 1650	S07 W36	LOCKHEED	26 1703 E	S01 E47
			LOCKHEED	16 1816	S08 E40	LOCKHEED	26 1940	N07 W20
			HAWAII	16 1830	S14 W33	MC MATH	26 1941	N08 W21
			LOCKHEED	16 1830	S09 W35	MC MATH	26 1947	N09 W61
			MC MATH	16 1856 E	S09 W35	LOCKHEED	26 1947	N10 W79
			* MC MATH	16 1910	S09 W35	LOCKHEED	26 2050	N11 W74
			* LOCKHEED	16 1957	S08 W36	LOCKHEED	26 2129	N11 W74
			LOCKHEED	16 2220	S04 W39	MC MATH	26 2131	N10 W80
			SAC PEAK	16 2244	S10 W35	LOCKHEED	26 2155	N08 W22
			MC MATH	16 2245	S08 W38	LOCKHEED	26 2156	N08 W22
			LOCKHEED	16 2245	S10 W37	LOCKHEED	26 2310	N11 W78
			HAWAII	17 0028	S06 W41			
			LOCKHEED	17 0034	S07 W42	CAPRI S	27 0628 E	N04 W25
			* PDDAIKINL	17 0334	S07 W42	CAPRI S	27 1740 E	N10 W90
			MC MATH	17 1528	S06 W50	LOCKHEED	27 1815	N09 W88
			* LOCKHEED	17 1625 E	N10 E39	LOCKHEED	27 1838	N15 W40
			MC MATH	17 1644	S05 E35	HAWAII	27 2010	S02 E37
			* MC MATH	17 1646	S07 E32	LOCKHEED	27 2013	S01 E33
			* HUANCAVO	17 1650	S06 W50	LOCKHEED	27 2310	N09 W36
			LOCKHEED	17 1655	S06 W51			
			LOCKHEED	17 1755	S06 E28	ARCTRI	28 0826	N10 W90
			LOCKHEED	17 1817	S06 W50	UCCEL	28 1206	N06 W44
			SAC PEAK	17 1818	S07 W52	UCCEL	28 1453	N06 W41
			* SAC PEAK	17 1930	S07 W52	LOCKHEED	28 1462	S19 E69
			LOCKHEED	17 1956	S10 W49	LOCKHEED	28 1855	S19 E69
			LOCKHEED	17 2033	S07 W53	LOCKHEED	28 1942	N08 W48
			HUANCAVO	17 2044	S09 W44	SAC PEAK	28 1948	N08 W48
			LOCKHEED	17 2255	S07 E25	HAWAII	28 1954	N09 W47
						LOCKHEED	28 2023	S19 E69
			CAPRI S	18 0910 E	S05 W57	LOCKHEED	28 2127	N08 W48
			MC MATH	18 1132	N08 E90	HAWAII	28 2222	N09 W99
			* MC MATH	18 1215	S05 W60	LOCKHEED	28 2224	N07 W50
			LOCKHEED	18 1304	S05 W64	LOCKHEED	28 2338	N07 W50
			ARCTRI	18 1436	S08 W62			
			MC MATH	18 1616	S04 W62	UCCEL	29 0831	N09 W56
			LOCKHEED	18 1700	N08 E89	* MC MATH	29 1642 E	N06 W60
			HAWAII	18 1916	S04 W66	* LOCKHEED	29 1808	N07 W56
			MC MATH	18 1917	S05 W68	* MC MATH	29 1953	N10 W62
			HAWAII	18 2046	S07 W66	MC MATH	29 2042	N05 W62
			MC MATH	18 2102	S06 W67	HAWAII	29 2054 E	N09 W62
			LOCKHEED	18 2150 U	S06 W65	* HAWAII	29 2330	N12 W64
			LOCKHEED	18 2150	S08 W66			
			HAWAII	18 2200	S06 W67	KODAIKINL	30 0406	N06 W66
			HAWAII	18 2258	S04 W66	LOCKHEED	30 0458	N06 W66
			LOCKHEED	18 2258	S08 W65	LOCKHEED	30 1840	N22 W18
						LOCKHEED	30 1955	N04 W73
			HAWAII	19 0042	S08 W65	LOCKHEED	30 2208	N11 W75
			LOCKHEED	19 1625 E	S08 W74	LOCKHEED	30 2220	N22 W18
			LOCKHEED	19 1712 E	S07 W77			
			LOCKHEED	19 1801	S06 W76	WENDEL	31 0510 E	N15 E37
			* HAWAII	19 1908	S09 W78	WENDEL	31 0649 E	N24 W21
			LOCKHEED	19 2002	S10 W75	UCCEL	31 0844	N25 W22
			LOCKHEED	19 2041	N07 E74	UCCEL	31 1003	S22 E34
			* HAWAII	19 2052	S09 W75	UCCEL	31 1046	N23 W27
			LOCKHEED	19 2152	N08 E71	UCCEL	31 1116	S23 E34
			LOCKHEED	19 2246	S08 W80	UCCEL	31 1124	N21 W62
			LOCKHEED	19 2305	S08 E01	WENDEL	31 1130 E	N23 W24
			LOCKHEED	19 2313	S11 W78	UCCEL	31 1139	S22 E32
						* UCCEL	31 1226	N23 W27
			UCCEL	20 0014	S11 W78	UCCEL	31 1433	N24 W25
			UCCEL	20 1100	S05 E68	UCCEL	31 1544	N24 W25
						UCCEL	31 1557	N23 W24

*Rated as flare of importance ≥ 1 by other observatories (See CRPI-F 206 Part B for August 1961)

COMMERCE - STANDARDS - BUREAU

SOLAR FLARES

MAY 1961

OBSERVATORY	DATE MAY 1961	OBSERVED UNIVERSAL TIME		LOCATION			DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS					PROVISIONAL IONOSPHERIC EFFECT
		START	END	APPROX. LAT	McMATH PLAGE REGION					TIME — UT	MEAS AREA Sq Deg	CORR. AREA Sq Deg	MAX WIDTH H _{fo}		
					MER DIST.	REGION									
CAPRI G	01	0838 E	0855 D	N04	W15	6097	17 D	1	2			4.00			S-SWF
CAPRI G	01	1204 E	1217	S11	W13	6098	13 D	1			3.09	6.00		73	
KIEV	01	1348 E	1359 D	N04	W17	6097	11 D	1	1	1359					
CLIMAX	01	1621	1645	N04	W18	6097	24	1			3.60	3.60			
CAPRI G	02	0905	0916	N03	W25	6097	11	1+	2			4.00			81
UCCLE	02	0912 E		N04	W27	6097	□	1	3		3.00	3.50			
CAPRI G	02	1027	1055	N03	W28	6097	34	1	2			4.00			
GOOD HOPE	02	1038 E	1055	N04	W27	6097	17 D	1		1040	2.60	2.90			
UCCLE	02	1041 E	1050	N04	W27	6097	9 D	1	3		3.50	4.20			75
VOROSHILOV	03	0149	0249 D	N04	W38	6097	60 D	1+	1		2.69	2.42			
NIZAMIAH	03	0525 E	0538 D	N05	W41	6097	13 D	2	1	0525	1.82	2.20	2.10		
UCCLE	03	0856	0907	N07	W44	6097	11	1	3	0857	1.50	2.20			
CAPRI G	03	1046	1058	N04	W42	6097	12	1	3			4.00			53
KIEV	03	1048	1110 D	N06	W43	6097	22 D	1	2	1054	2.58				
CAPRI G	04	1028	1045	N04	W57	6097	17	1	2			4.00			
GOOD HOPE	04	1201 E	1210	S12	W70	6096	9 D	1		1201	.90				
KIEV	04	1311	1325	N05	W58	6097	14	1	3	1312	3.09				65
CAPRI G	04	1619 E	1626	N04	W60	6097	7 D	1	2			4.00			
PIRCULI	05	0809	0821 D	N12	W32	6099	12 D	1	1	0815	1.83	2.34			
CAPRI G	05	0812 E	0826	N13	W34	6099	14 D	1+	2			5.00			
KRASNYA	05	0813	0830	N10	W33	6099	17	1			2.17	2.30			58
UCCLE	05	0822 E	0828	N14	W34	6099	6 D	1	3		1.70	3.00			
UCCLE	05	1138	1142	N04	W82	6097	4	1	3		1.50				
KIEV	05	1156 E	1210 D	S13	W69	6098	14 D	1	2	1201	1.75			67	
GOOD HOPE	05	1219	1245	N09	E53	6104	26	1		1223	1.40	2.40			52
CAPRI G	09	1308	1341	N10	E15	6104	33	1	2			4.00			
KIEV	09	1310 E	1330 D	N08	E10	6104	20 D	1	1	1310	1.75				
CAPRI G	09	1540	1602	N10	E12	6104	22	2	2			10.00			
CLIMAX	09	1542	1550 D	N09	E12	6104	8 D	2		1546	5.20	5.20			73
VOROSHILOV	09	2356 E	0000 D	N08	E31	6106	4 D	1	1	2356	1.79				
MITAKA	10	0023	0050	N08	E29	6106	27	1	1	0033	1.75	2.08	2.06	120	
MITAKA	10	0026	0050	N07	E29	6106	24	1	1	0033	.82	.98	2.82	143	
CAPRI G	11	0835 E	0844	N02	E20	6106	9 D	1+	2			5.00			80
GOOD HOPE	11	0838	0846	N05	E20	6106	8	1	1	0840	2.10	2.20			
CAPRI G	11	1125	1151	N09	E10	6105	26	1+	2			5.00			
GOOD HOPE	11	1127	1147	N11	E10	6105	20	1		1128	2.30	2.40			
CAPRI G	11	1315	1335 D	N05	E10	6106	20 D	1	2			4.00			80 68 55
ABASTUNANI	12	0559	0724	N04	E04	6106	85	1+	3		5.85	6.10	8.00		
PIRCULI	12	0601 E	0636	N05	E05	6106	35 D	1+	1	0604	2.73	2.78			
PIRCULI	12	0702 E	0722	N03	E00	6106	20 D	1	1	0705	1.64	1.67			
CAPRI G	12	0704 E	0717	N04	W01	6106	13 D	1	2			4.00			S-SWF
CAPRI G	12	0915	0917 D	N04	W02	6106	2 D	1	2			4.00			

SOLAR FLARES

MAY 1961

OBSERVATORY	DATE MAY 1961	OBSERVED UNIVERSAL TIME		MAY PHASE	LOCATION		DURA TION MINUTES	IM- POR- TANCE	OBS. COND.	TIME — U.T.	MEASUREMENTS			MAX INT F ₂	PROVISIONAL IONOSPHERIC EFFECT
		START	END		APPROX. LAT.	MC-MATH FLARE REGION					MEAS. AREA Sq. Deg.	COBL. AREA Sq. Deg.	MAX WIDTH H ₃₀₀₀		
[UCCLE]	12	0943	0955		N03 W01	6106	12	1	3	0948	2.00	2.00	3.07	107	Slow S-SWF
	12	1255	1333		N11 W04	6105	38	1	1	1305	2.10	2.10	1.96	107	
	12	1258	1302 D		N11 W05	6105	4	0	2	1302	3.50	3.50	1.51	120	
	12	1314	1346 D	1314	N09 W05	6105	32	1	2	1314	4.00	4.00		66	
[MITAKA]	13	0002	0006		N05 W10	6106	4	1	1	0002	.82	.84		100	Slow S-SWF
	13	0110	0114		N05 W10	6106	4	1	2	0110	.26	.27		56	
	13	0448	0503 D		N04 W10	6106	15	0	2	0450	2.48				
	13	0551	0609	0600	N04 W16	6106	18	1	2	0600	2.17				
[ALMA-ATA]	13	0551	0609		N04 W15	6106	23	1	3	0600	1.98	2.10			Slow S-SWF
	13	0558	0618	0502	N03 W08	6106	14	1	2	0605	1.44	4.00			
	13	0602	0613		N04 W14	6106	11	1	2	0610	1.00	1.06			
	13	0610	0617	0610 U	N04 W15	6106	7	1	2		4.00	4.00			
[CAPRI G]	13	0943	0950 D		N12 W08	6105	7	1	2		2.00	2.10			Slow S-SWF
	13	1003	1013		N09 E77	6114	10	1	2						
	15	1642	E		N04 W43	6106		1	2		1.50	2.10			
	20	0616	E		N04 W34	6120		1	1	0616	3.09			60	
[CLIMAX]	21	1551	1617		N19 E53	6122	26	1			1.80	2.50			Slow S-SWF
	21	1656	1711	1703	N07 E70	6125	15	2			3.70	6.70			
	22	1347	1413		N19 E39	6122	26	1	2			4.00			
	22	1400	1415		S12 W40	6116	15	1	2			4.00			
[UCCLE]	23	0912	E		N06 W80	6120		1	2		3.00	6.00		60	Slow S-SWF
	23	0930	E	0948 D	N16 E30	6122	18	D	2						
	23	1325	E		N17 E29	6122		1	1	1325	2.58	4.00			
	24	0423	0517	0430	N16 E20	6122	54	1+	2	0430	2.37			108	
[ALMA-ATA]	24	0423	0526	0431	N15 E17	6122	63	1+	2	0431	2.01			108	Slow S-SWF
	24	0426	0542	0434	N16 E18	6122	76	1+	1	0434	5.47	6.10	3.20	88	
	24	0501	E	0530 D	N15 E17	6122	29	D	2	0501	9.80				
	24	0755	0811		N15 E05	6122	16	1	2		4.00	4.00			
[CAPRI G]	24	1222	1235		N16 E14	6122	13	1	2		4.00	4.00			Slow S-SWF
	24	1439	E	1444	N10 E35	6125	5	D	2		4.00	4.00			
	24	1507	1543		N04 E35	6125	36	1+	2		6.00	6.00			
	25	0127	E	0142	N06 E29	6125	15	D	1	0132	1.54	1.80	2.06	102	
[MITAKA]	25	0801	0811	0805 U	N17 E05	6122	10	D	2	0805	3.65	3.94		56	Slow S-SWF
	27	0149	E	0158	N06 E00	6125	9	D	1	0150	1.03	1.03	2.00	120	
	30	0015	0023	D	N03 W42	6125	8	D	1	0015	2.89			80	
	30	0340	0354	0344	N03 W44	6125	14	1	1	0342	2.36	3.16	3.48	137	
[ALMA-ATA]	30	0348	0422	0353	N05 W44	6125	34	1+	2	0353	1.80			98	Slow S-SWF
	31	1154	1215		N19 W85	6122	21	D	1		.80				
	31	1157	E	1159 D	N19 W84	6122	2	D	1	1158					

These flare reports are addenda to the May 1961 flares published in CRPL-F 202 Part B, June 1961.

COMPRE - STANDARDS - BOLDER

E = LESS THAN
D = GREATER THAN
U = APPROXIMATE
□ = NOT REPORTED

CAPRI G ANACAPRI - GERMAN
CAPRI S ANACAPRI - SWEDISH
GOOD HOPE ROYAL OBSERVATORY, CAPE OF GOOD HOPE
KIEV KIEV UNIVERSITY
KODAIKANAL KODAIKANAL
KRASNYA PAKHRA KRASNYA PAKHRA
LOCKHEED LOS ANGELES

MC-MATH - HILBERT
MOSCOW - CAISH
ROYAL GREENWICH OBSERVATORY.
HERSTORGEUX
SAC PEAK SACRAMENTO PEAK
SCHAULINS SCHAULINS
WENDEL WENDEL

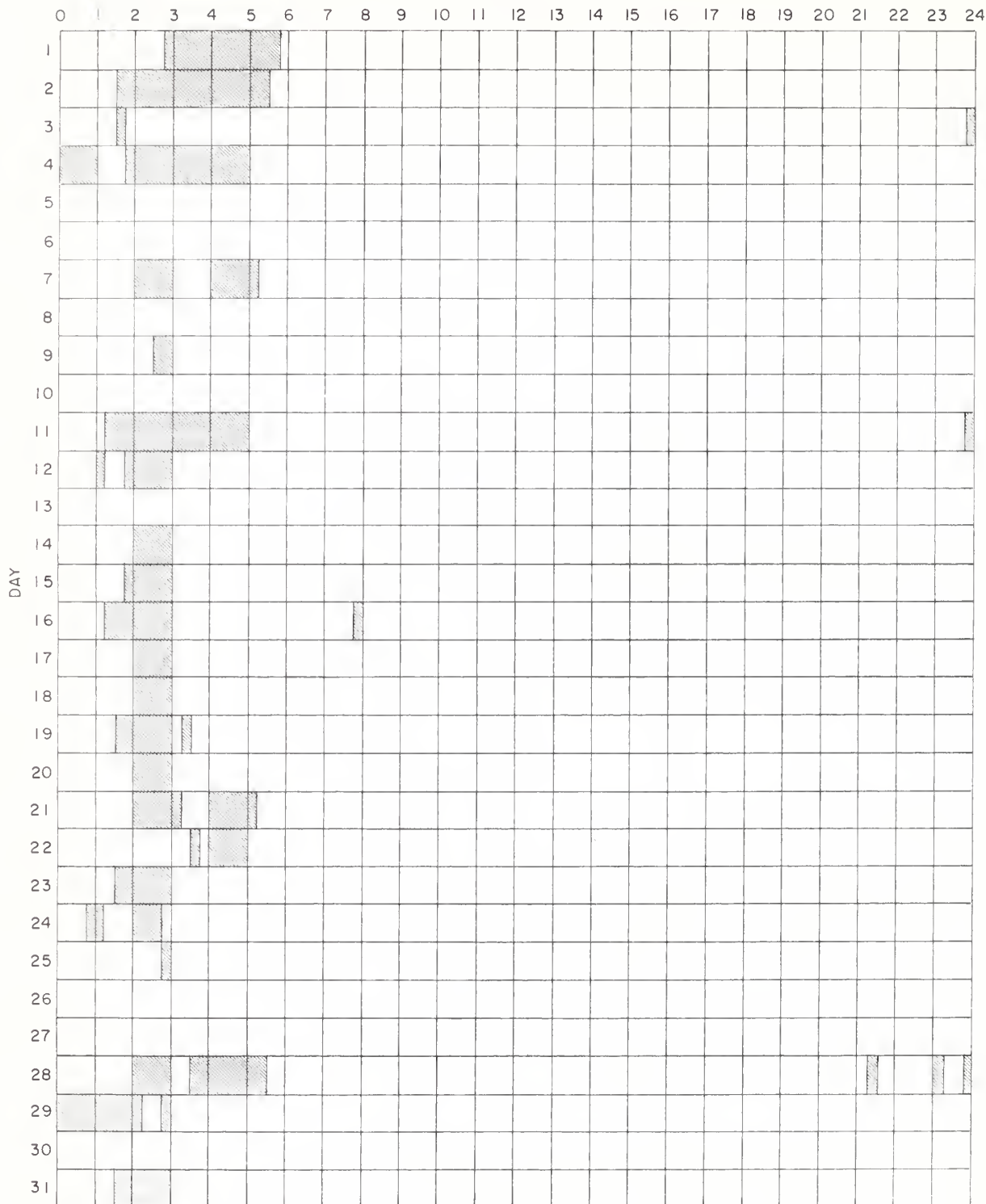
ALL VALUES IN THE MAXIMUM INTENSITY COLUMN FOR SAC PEAK ARE ARBITRARY UNITS (0-40) AND FOR LOCKHEED ARE ARBITRARY UNITS (10-40), NOT PERCENT OF CONTINUOUS SPECTRUM.

SEE DESCRIPTIVE TEXT PUBLISHED NOVEMBER 1960 FOR DEFINITION OF CORRECTED AREA VALUES LISTED FOR CLIMAX, HAWAII, LOCKHEED AND SACRAMENTO PEAK.

INTERVALS OF NO FLARE PATROL OBSERVATIONS

MAY 1961

Hour-UT



Stations Include:

COMMERCE - STANDARDS - BOULDER

- | | | | | |
|--------------------|-----------------|----------------|-----------------|-------------|
| Abastumani | Good Hope | Kyoto | Ondrejov | Simeiz |
| Alma Ata | Hawaii | Lockheed | Ottawa | Tashkent |
| Anacapri (Swedish) | Huancayo | McMath-Hulbert | Pirculi | Uccle |
| Arcetri | Kharkov | Meudon | Royal Greenwich | Voroshilov |
| Bucharest | Kiev GAO | Mitaka | Herstmonceux | Wendelstein |
| Climax | Krasnaya Pakhra | Moscow - Caish | Sacramento Peak | |

IONOSPHERIC EFFECTS OF SOLAR FLARES

IIIj

SHORT WAVE RADIO FADEOUTS SUDDEN COSMIC NOISE ABSORPTION SUDDEN ENHANCEMENTS OF ATMOSPHERICS SUDDEN PHASE ANOMALIES SOLAR NOISE BURSTS AT 18 Mc

JULY 1961

JULY 1961	UNIVERSAL TIME			SWF TYPE	IMPORTANCE					WIDE SPREAD INDEX	STATIONS	KNOWN FLARE
	START	END	NAX		IMP	ABS	SCNA	SEA	SPA	BUR		
01	1744	1800	1749						X		1 BO	1739
01	1801	1855		G 2							5 AD PR	
02	0600	0645U	0624					3			1 A11	0615E
02	1622	1647		SL 1-							1 AN	
03	1508	1520	1515						X		1 BO	
03	1520	1620	1540						X		BO	
03	1618	1640	1622						X		BO	
03	2147	2148								1	5 BO HA	
04	0730		0745					1+			1 A11	
04	1708	1713	1711							1	4 RE BO	
04	1830	1837	1834							1	5 RE BO HA (GROUP)	
04	1849	1853								1	5 BO HA	
04	1919	1920								1	5 BO HA	
04	1930	1950	1940						X		1 BO	
04	1940	1942								1	5 BO HA	
05	1514	1540		SL 1							5 MC HU PR	
06	1856	1859								1	5 BO HA RE	
07	1611	1645	1622						X		1 BO	
07	1859	1912	1903						X		BO	1644
07	1950	2040	2015						X		BO	
07	2321	2324								1	5 BO HA	
08	1535	1645	1600						X		1 BO	
09	1645		1730						X		1 BO	
09	1738	1900	1750						X		BO	
09	2037	2041								1	5 BO HA RE	
10	0722	0752		SL 2							5 PU JU OK	
10	1313	1335		S 2							5 MC JU PR PU	1312
10	1522	1605		S 2							5 MC BE FM JU PR PU	
10	1642		1655						X		1 BO	
10	1852	2100	1900						X		BO	
11	1125	1155	1130						X		1 BO	1100
11	1333	1358		S 2							4 BE BO MC PR	
11	1333	1500	1345						X		1 BO	1332
11	1335	1400	1341								4 RE MC BO	
11	1338	1417	1350			36	1	1			5 BO DU A1 MC	
11	1600	1930	1710						X		BO	
* 11	1644	1838	1815					2			5 BO A5 NE DU	1615
11	1648	2053		S 3+							5 PR AN BE BO FM HU MC	
11	1650	1750	1704			76	3				4 RE BO MC	
11	1652	1935	1712						X		BO	
11	1907	2200		S 3+							5 MC AN	
12	1000	1300	1040						X		1 BO	
12	1020	1133	1035								1 RE	1000
12	1023	1230		S 3+		43	1+				5 MC DA NE PR SW TN	
12	1024	1100	1038					2			5 A11 NE	
12	2130	2220	2140						X		BO	
12	2249	2303	2252			15	1				1 BO	2248
* 12	2250	2320	2259					1+			5 BO A11 A9 A5 TY	
13	1335	1412		SL 1-							4 HU PR	
* 13	2214	2234	2219					1+			5 A5 TY A6 A9	
14	1650	1718	1702						X		1 BO	
15	1428	1455	1445					1			2 A3 A1	
15	1434		1517						X		1 BO	1433
15	1436	1443	1440								1 RE (NOISE STORM)	
15	1512	1530	1517								1 RE	
15	1514	1730		S 3		21	1				5 HU FM JU MC PR	
15	1550	1800	1605						X		BO	1520

IONOSPHERIC EFFECTS OF SOLAR FLARES

SHORT WAVE RADIO FADEOUTS
 SUDDEN COSMIC NOISE ABSORPTION
 SUDDEN ENHANCEMENTS OF ATMOSPHERICS
 SUDDEN PHASE ANOMALIES
 SOLAR NOISE BURSTS AT 18 Mc

JULY 1961

	UNIVERSAL TIME			SWF TYPE	IMPORTANCE					WIDE SPREAD INDEX	STATIONS	KNOWN FLARE
	START	END	MAX		ABS	SCNA	SEA	SPA	BUR			
16	1700	1846		SL 3-						5	HU AN	
16	1942	2040	2008					X		1	BO	1938
17	0217	0228	0220		10	1		X		5	BO HA	
[17	1310	1400	1321							1	BO	1300
17	1320	1350		S 1+						5	MC HU PR	
[17	2140	2220	2147		35	2				5	BO HA RE	
17	2140	2230		S 2+						5	MC HU OK PR TO	
[17	2140	2300	2144					X		BO		2125
* 17	2141	2230	2152				2			5	BO A3 A2 A5 A9 HA A6	
18	0504	0528	0515				1			5	TY TA A11	
18	0807	0912	0816				2			5	TY A11 DU	0754
[18	0943	1051	1030				3			5	TY NE A11	
18	0953	1036	1008					X		1	BO	0921
[18	1000	1153		S 3						5	PR NE PM	
19	1832	1848	1838					X		1	BO	
19	1939	2000	1948					X		BO		1903
[19	2055	2200	2110					X		1	BO	2051
19	2100	2125		SL 1+						5	MC HU PR	
20	0316	0407		SL 2						5	OK CA TO	
[20	0721	0736	0727				1			5	TY NE	
20	0722	0752		S 1						5	DA NE OK TO	
[20	1549		1557					X		1	BO	1525E
[20	1550	2200		S 3+						5	MC BE BR HU NE PR TO	
20	1551		1600					X		1	BO	
[20	1552	1645	1603				2			5	A3 A2 NE	
20	1552	2140			88	3				5	RE CO (NOISE STORM)	
[20	1615	1830	1624					X		BO		1633E
20	1616									BO		
21	0407	0442		S 2-						4	AD OK TO	
[21	1702	1815		S 2+						5	MC FM HU PR PU	
21	1702	1900	1710					X		1	BO	1714
[21	1703		1708		20	1				5	BO HA MC	
21	1703		1710				2			5	BO HA	
[21	1818	1930		SL 4						5	MC HU	
21	1902	1905							1	5	BO HA	
22	1457	1605		G 2						5	AN BE HU MC PR	
23	1550	1700	1625					X		1	BO	
23	2159	2201							1	5	BO HA	
23	2227	2231							2	5	BO HA RE	
24	1114	2215	1122					X		1	BO	1410U
[24	1737	1745							1	5	BO HA	
24	1748	1900	1810					X		1	BO	1722
[24	1755	1930		SL 2						5	MC HU PR	
24	2000	0124							2	5	BO HA	
26	1948	2030	1955					X		1	BO	
27	2055	2240	2120					X		1	BO	
[28	0227	0357		SL 3						5	AD AN CA NZ OK SY TO	
28	0229	0347	0243		30	2				1	HA	

Notes:

1. The times of observation of the events are those of the first station listed in the "STATIONS" column.
2. Under SWF type: S = S-SWF; SL = Slow S-SWF.
3. Column headed "ABS" is the percent absorption of the SCNA.
4. Column headed "BUR" is for solar noise bursts at 18 Mc.
5. Column headed "SPA" is sudden phase anomalies as observed at Boulder, Colorado on GBR-England.
6. BR = Breisach; CA = Canberra; CO = College, Alaska; DA = Darmstadt; DU = Dunsink; JU = Juhlesruh; PM = Paramaribo; RE = Renssler; SY = Sydney; TA = Tasmania; TN = Gangiers.
7. Asterisk * indicates Sudden Enhancement of Signal from 18 kc (NBA Panama Canal Zone) observed by A5.

Erratum: In CRPL-F 204B issued August 1961, Note 5 date should have been June 29 instead of July 29.

COMMERCE - STANDARDS - BOULDER

SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

IVa

AUGUST 1961

OTTAWA

2800 MC

AUGUST 1961	TYPE	START UT	DURATION HRS MINS	MAXIMUM			REMARKS
				TIME UT	PEAK FLUX	MEAN FLUX	
1	1 Simple 1	2025	4	2026.5	3	1.5	
10	1 Simple 1	1438.3	3.5	1439.2	3.5	1.2	
10	1 Simple 1	1505.2	0.8	1505.5	6	2	
10	2 Simple 2	2315.5	2.5	2316.8	22	10	
12	3 Simple 3 A	1611	45	Indet.	2	1	
	1 Simple 1	1613.5	4.5	1616	7	3	
	2 Simple 2 f	1629	4	1630.3	12	5	
12	1 Simple 1	1712.5	1	1713.2	3	1.5	
12	1 Simple 1	1720.5	4	1721	2.5	1.2	
12	6 Complex f	2048.5	4	2051.3	60	20	
	4 Post Increase		10		4	2	
13	3 Simple 3 A	1353	2 40	Indet.	2.5	2.0	
	1 Simple 1	1517	5	1519.7	4	2	
13	2 Simple 2	1907.5	12	1909	10	3.5	
13	3 Simple 3	1930	1 10	1948	4	2	
14	3 Simple 3 A	1425	3 45	1507	10	5	
	1 Simple 1	1731.2	1.3	1731.7	2.5	1.3	
15	3 Simple 3 A	1645	50	1705	3	1.5	
	6 Complex f	1646.5	5	1648.3	13	5	
16	1 Simple 1 f	1604.8	4	1606	6	2	
17	3 Simple 3 A	2104	45	2113	5.5	2.0	
	1 Simple 1 f	2108	4	2109.5	4	2.5	
18	3 Simple 3	1300	2 05	1310	8	3.5	
18	3 Simple 3 A	2036	1 39	2052	12	5	
	2 Simple 2 f	2039	11	2044	43	16	
	6 Complex	2054.2	3.8	2056.3	28	10	
31	3 Simple 3 A	1747	38	Indet.	2	1.5	
	1 Simple 1	1758.3	4.7	1800.5	6	3	

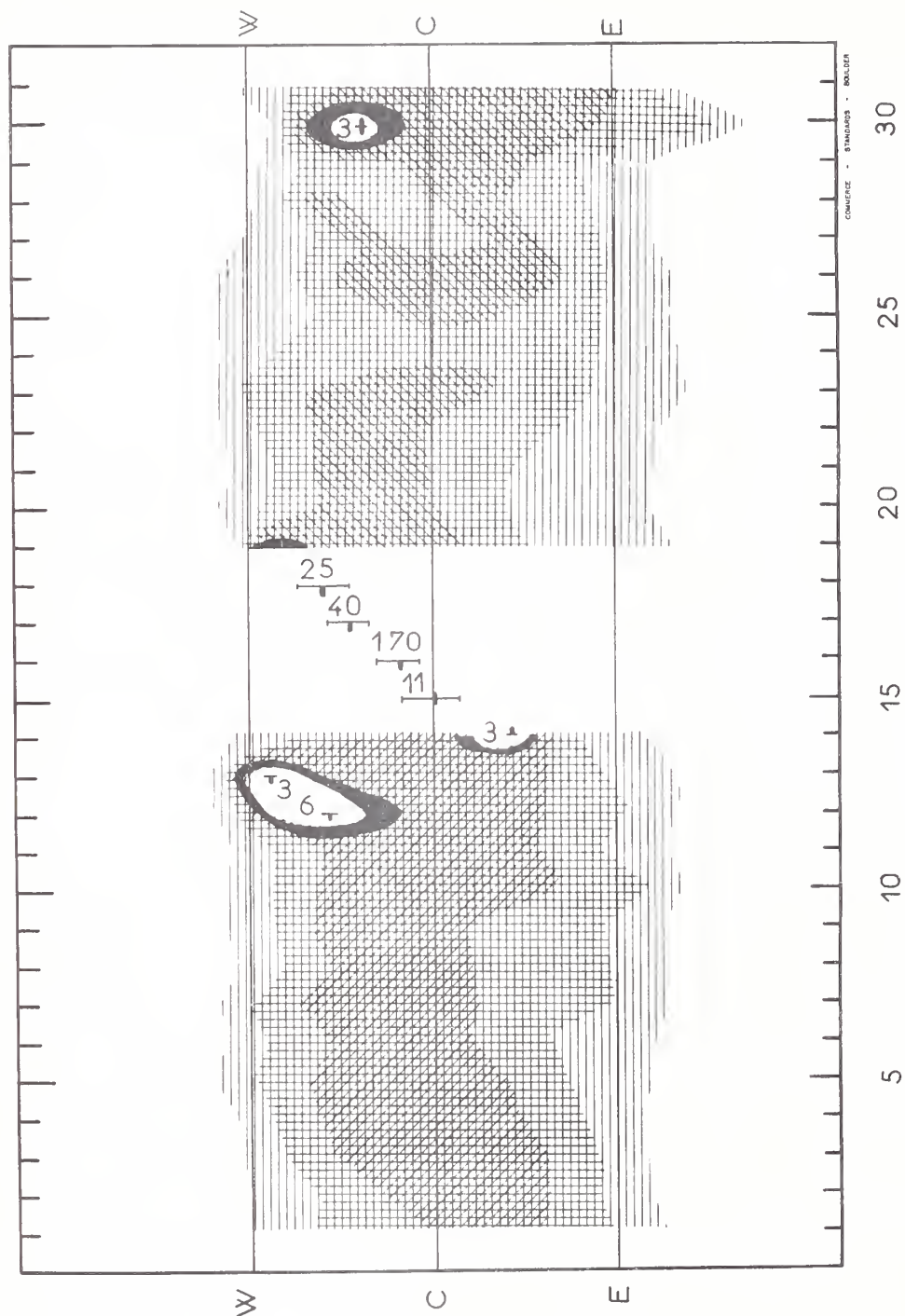
COMMERCE - STANDARDS - BOULDER

SOLAR RADIO EMISSION
INTERFEROMETRIC OBSERVATIONS

Nancay

AUGUST 1961

169 Mc



SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

AUGUST 1961

BOULDER

108 Mc.

Aug. 1961	Type	Start UT	Time of Maximum UT	Duration Minutes	Intensity
3	3	1639.0	1639.5	1.0	2
4	3	1855.6	1856.2	0.7	2
5	3	1830.5	1831.1	1.5	2
6	3	1442.5	1443.8	1.3	2
6	3	1719.5	1720.2	1.2	2
8	3	1236.5	1237.5	1.2	2
8	3	1401.5	1402.2	1.0	2
8	3	1643.5	1644.4	1.0	2
* 9	3	1151.8	1152.5	2.2	3
9	3	1206.4	1207.2	2.0	3
9	3	1241.0	1242.5	2.0	3
10	1	1211		190 D	1
11	1	1212	1303	165 D	2
12	7	1245		380 D	2
12	8	1620.5	1622.5	4.5	3
12	8	1711.2	1714.0	5.5	3
12	8	2048.9	2049.0	5.0	3
13	2	0030.0	0030.7	3.0	3
13	3	0117.0	0117.9	1.4	2
13	3	0129.0	0129.5	2.0	2

Aug. 1961	Type	Start UT	Time of Maximum UT	Duration Minutes	Intensity
13	3	1256.2	1257.4	1.6	3
13	2	1907.0	1907.5	6.0	2
14	1	1215		180 D	1
15	6	1216		803 D	2
16	9	1217	1257	118	3
17	7	2120	2150	250	2
18	3	1223.5	1225.0	2.0	3
18	1	1549		570	1
18	8	2047.5	2049.3	7	3
20	3	1515.0	1516.2	1.5	2
20	3	1754.8	1756.4	2.0	2
22	3	1307.0	1307.5	1.1	2
22	3	1628.0	1628.4	2.0	2
25	3	1336.1	1337.2	1.6	2
26	1	1356.0	1403	35	1
29	3	1706.0	1707.8	2.1	2
29	2	2020.0	2023.0	3.8	3
30	3	1400.8	1401.4	1.1	3
30	3	1559.3	1600.0	0.7	3
31	3	1242.5	1243.0	1.1	2

COMMERCE - STANDARDS - BOULDER

*In dawn twilight.

NOMINAL TIMES OF OBSERVATION

AUGUST 1961

BOULDER

108 MC

August 1961	U.T.		August 1961	U.T.	
1	1845-0155	I 1845-0155	17	1218-0137	I 2045-0030
2	1204-0154	I 0030-0154	18	1219-0136	
3	1205-0153		19	1220-0135	
4	1206-0152		20	1221-0133	I 1930-2220
5	1207-0151		21	1222-0132	I 2235-0025
6	1208-0150	I 2000-0150	22	1223-0130	
7	1209-0148	I 1920-0148	23	1224-0129	
8	1210-0147	I 1730-0147	24	1225-0127	
9	1210-0146	I 2025-2105	25	1226-0126	I 2120-0115
10	1211-0145	I 1915-2345	26	1227-0124	I 2155-2345
11	1212-0144		27	1228-0124	I 2010-0124
12	1213-0143	I 1900-2400	28	1229-0122	I 1945-2340
13	1214-0142	I 1930-0142	29	1229-0121	I 2145-0015
14	1215-0140	I 1830-2315	30	1230-0119	I 1930-0119
15	1216-0139		31	1231-0118	I 2030-0118
16	1217-0138	I 2130-2215; 2330-0138			

COMMERCE - STANDARDS - BOULDER

I = interference: thunderstorm activity has continued to be heavy.

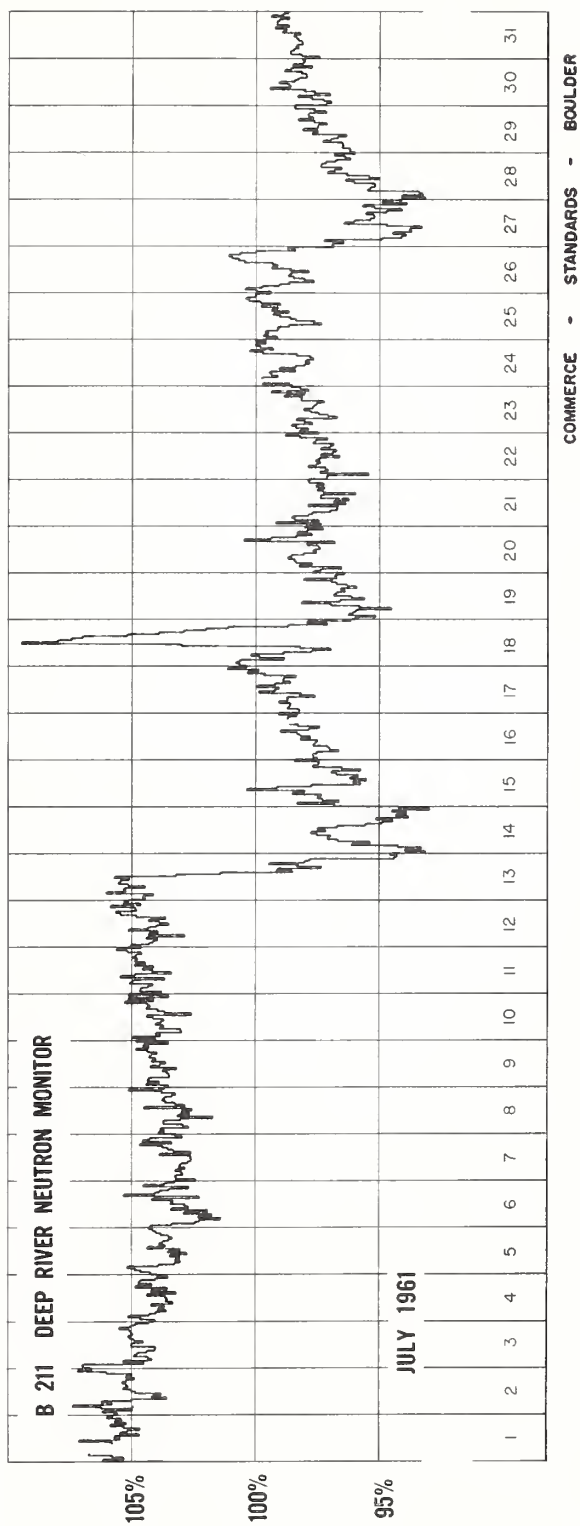
COSMIC RAY INDICES
(Climax Neutron Monitor)

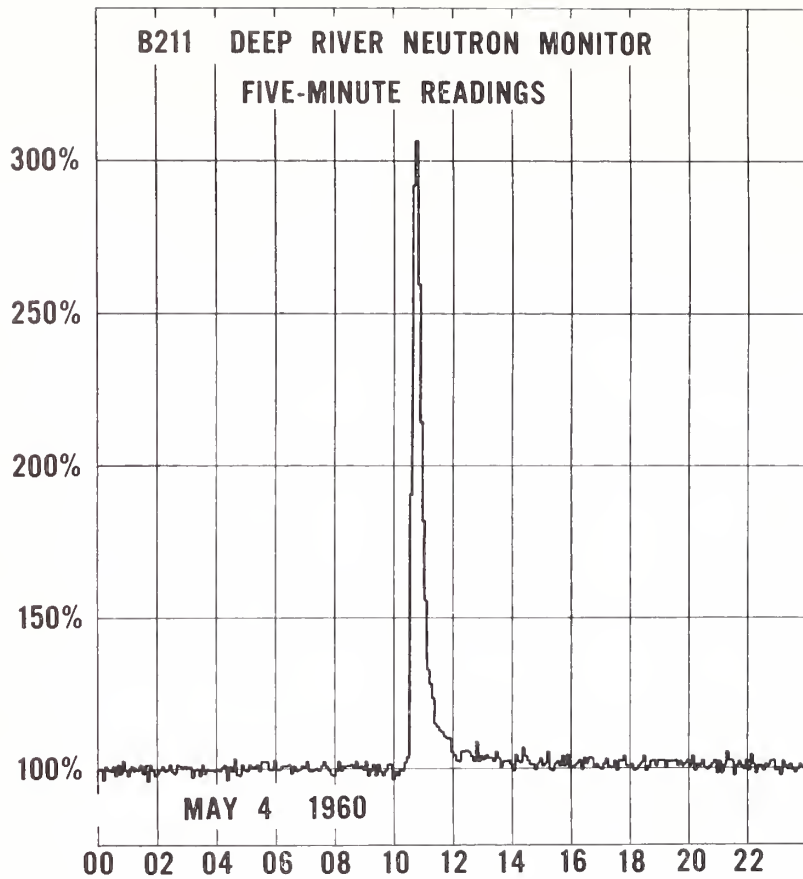
JULY 1961

July 1961	Daily average counts/hr.	July 1961	Daily average counts/hr.
1	3027.8	16	2788.4
2	3023.7	17	2823.7
3	3002.4	18	2835.9
4	2984.0	19	2740.2
5	2986.6	20	2775.6
6	2954.1	21	2792.4
7	2953.7	22	2786.3
8	2961.4	23	2796.4
9	2969.9	24	2834.7
10	2984.6	25	2842.3
11	2996.6	26	2849.8
12	3012.5	27	2738.4
13	2905.6	28	2759.1
14	2711.9	29	2791.1
15	2764.1	30	2814.9
		31	2831.4

COMMERCE - STANDARDS - BOULDER

COSMIC RAY INDICES
(Pressure Corrected Hourly Totals)



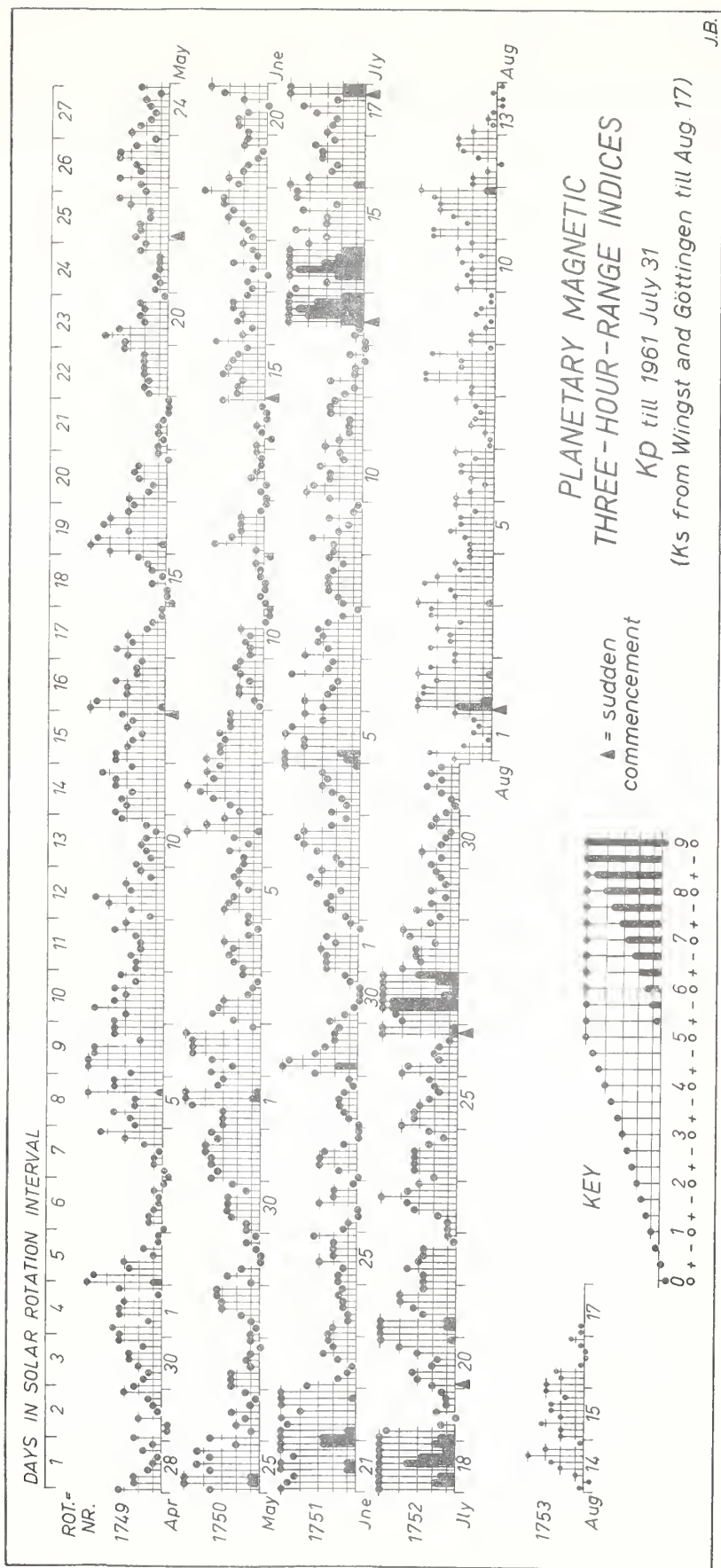


GEOMAGNETIC ACTIVITY INDICES

JULY 1961

July 1961	C	Values Kp								Sum	Ap	Final Selected Days	
		Three hour Gr. interval											
		1	2	3	4	5	6	7	8				
1	0.4	3-	3-	3-	3o	2o	3-	0+	1o	17o	10	Five Quiet	
2	0.7	1+	2+	3-	2+	2-	3+	4-	3o	20+	12		
3	0.9	2-	2o	3+	4o	4+	4o	2+	1+	23o	16		
4	1.0	2+	1+	2-	2+	3o	3-	3o	5+	22-	16		11
5	1.4	6o	6+	4o	4o	5o	5-	3o	4o	37o	45		12
6	0.9	3o	4o	3-	2+	2o	5-	3-	2+	24-	16	29	
7	0.8	4o	3-	3+	3o	3+	3-	2-	1-	21+	14	30	
8	0.5	2-	2o	3-	3-	3-	2+	2-	3-	18+	10	31	
9	0.5	2+	2+	4-	2o	1+	3-	1o	1-	16o	9		
10	0.8	3-	4o	4-	3-	3-	3+	2-	2o	23-	14		
11	0.4	3o	2o	1+	1+	1+	3-	3-	2+	17-	9	Five Disturbed	
12	0.4	2-	1o	3-	1o	1o	0+	1+	0+	9+	5		
13	1.8	0+	1o	1-	6+	8o	8+	8-	6+	39-	102		
14	1.8	5-	3o	7-	8+	7+	7-	6+	4o	47o	98		5
15	1.2	3o	5-	3o	3o	4+	2+	5-	5-	30-	25		13
												14	
16	1.1	6-	4o	3-	2+	3+	3+	4-	3-	28-	23	18	
17	1.4	3o	3-	2+	4-	4+	2+	6+	6+	31o	36	27	
18	1.8	5o	6+	6o	5o	8-	7o	6-	6+	49o	93		
19	0.8	6o	5-	1+	0+	2-	1o	1o	1+	17+	18		
20	1.1	2o	3o	3+	2o	2-	3o	4o	5+	24+	19		
21	1.3	5o	6-	6-	3-	3+	4o	4o	3-	33o	35	Ten Quiet	
22	0.6	3-	3-	4-	3o	3-	3-	1-	1o	19o	12		
23	0.9	1o	1o	2-	3+	4-	5o	4-	3o	22+	17		
24	0.7	2o	3+	3+	3+	3+	2+	1+	2+	21+	13		1
25	0.7	4o	3+	3+	3o	2+	2-	2o	2+	22o	14		2
												8	
26	1.1	4o	4-	2-	2o	2-	1o	5+	5+	25-	23	9	
27	1.9	4o	4+	8+	8+	6o	5+	6+	7+	50o	114	11	
28	1.0	4o	3o	3+	3+	2o	4-	4o	2+	26-	18	12	
29	0.5	2-	3+	2+	1+	2+	1+	2-	2o	16o	8	22	
30	0.6	2+	2-	3o	2-	1+	1o	2+	2o	15+	8	29	
31	0.3	1+	1-	1o	2-	3-	2-	2+	2-	13o	6	30	
												31	
Mean:	0.945									Mean:	28		

COMMERCE - STANDARDS - BOULDER



J.B.

COMMERCE - STANDARDS - BOULDER

CRPL RADIO PROPAGATION QUALITY FIGURES AND FORECASTS

JULY 1961

NORTH ATLANTIC

NORTH PACIFIC

DATE	NORTH ATLANTIC 6-HOURLY QUALITY FIGURES				SHORT-TERM FORECASTS: ISSUED ABOUT ONE HOUR IN ADVANCE OF				WHOLE DAY	ADVANCE FORECASTS: 1-7 REPORTS FOR WHOLE DAY IN ADVANCE OF				DECEMBER P ₃₀₀₀	
	00 06 12 18 TO TO TO TO				00 06 12 18 TO TO TO TO					1-7 1-7 1-7 1-7 DAYS DAYS DAYS DAYS FINAL JPS 30W JP				HALF DAY 10 121	
JULY 1961															
01	7- 60 6+ 7-	7 6 6 6	7 6 6 6	7 6 6 6	7 7 7 7	6+	7 7 7 7	6 7	5 5	7	4 4	3 2			
02	7 60 6+ 6+	7 6 6 6	7 6 6 6	7 6 6 6	7 7 7 7	6+	7 7 7 7	6 6	5 5	6	5 5	2 2			
03	7- 60 60 60	6 6 6 5	6 6 6 5	6 6 6 5	7 7 7 7	60	7 7 7 7	7 6	6 5	6	6 6	3 2			
04	7- 60 7- 6+	6 5 6 7	6 5 6 7	6 5 6 7	7 7 7 7	6+	7 7 7 7	5 5	4 5	5	6 6	2 2			
05	4+ 3+ 5- 5+	6 4 5 5	6 4 5 5	6 4 5 5	7 7 7 7	(4+)	7 7 7 7	6 6	5 5	6	6 6	(6) (4)			
06	5+ 5- 60 60	5 4 5 6	5 4 5 6	5 4 5 6	5 5 5 5	6-	5 5 5 5	6 6	5 5	6	5 5	3 3			
07	60 5- 60 60	6 5 6 6	6 5 6 6	6 5 6 6	6 6 6 6	6-	6 6 6 6	6 6	5 5	6	6 6	(4) 2			
08	7- 60 6+ 6+	6 6 6 6	6 6 6 6	6 6 6 6	6 6 6 6	6+	6 6 6 6	6 6	5 5	6	6 6	3 2			
09	7- 5+ 60 60	7 6 6 6	7 6 6 6	7 6 6 6	6 6 6 6	60	6 6 6 6	6 6	5 5	6	6 6	2 2			
10	6+ 4+ 60 60	7 5 6 6	7 5 6 6	7 5 6 6	7 7 7 7	5+	7 7 7 7	6 6	5 5	6	6 6	(4) 3			
11	7- 5+ 6- 6-	7 6 6 6	7 6 6 6	7 6 6 6	7 7 7 7	6-	7 7 7 7	6 6	6 6	6	6 6	2 2			
12	7- 4+ 5- 6+	7 5 5 4	7 5 5 4	7 5 5 4	5 5 5 5	5+	5 5 5 5	7 6	6 5	6	5 5	3 0			
13	60 60 6- 5-	4 4 4 3	4 4 4 3	4 4 4 3	3 3 3 3	6-	3 3 3 3	4 4	4 3	5	3 3	2 (6)			
14	4- 2+ 3- 3+	2 2 2 3	2 2 2 3	2 2 2 3	3 3 3 3	(30)	3 3 3 3	2 4	4 3	(3)	3 3	(6) (6)			
15	4- 20 4+ 4+	3 2 3 3	3 2 3 3	3 2 3 3	5 5 5 5	(4-)	5 5 5 5	4 4	3 5	(4)	5 5	(4) (4)			
16	3+ 3+ 5- 6-	4 3 4 5	4 3 4 5	4 3 4 5	5 5 5 5	(40)	5 5 5 5	5 5	3 4	5	6 6	(4) 3			
17	60 50 5+ 50	5 5 3 6	5 5 3 6	5 5 3 6	4 4 4 4	5+	4 4 4 4	6 4	4 5	5	6 6	3 (4)			
18	4- 2- 2+ 2+	4 3 3 6	4 3 3 6	4 3 3 6	4 5 4 5	(3-)	4 5 4 5	3 2	2 3	(3)	5 5	(6) (6)			
19	2+ 3- 40 6-	2 1 2 4	2 1 2 4	2 1 2 4	5 5 5 5	(3+)	5 5 5 5	3 4	2 4	(4)	4 4	2 (4)			
20	6+ 5- 4+ 50	4 4 6 5	4 4 6 5	4 4 6 5	3 3 3 3	50	3 3 3 3	5 5	4 5	5	2 2	3 3			
21	5- 30 4+ 5+	3 3 5 5	3 3 5 5	3 3 5 5	3 3 3 3	(40)	3 3 3 3	4 5	3 3	(4)	2 2	(6) (4)			
22	6+ 5- 5+ 60	4 4 5 6	4 4 5 6	4 4 5 6	5 5 5 5	6-	5 5 5 5	6 6	5 5	6	3 3	2 3			
23	70 60 6+ 60	7 6 6 6	7 6 6 6	7 6 6 6	6 6 6 6	6+	6 6 6 6	6 6	5 4	6	5 5	2 3			
24	6+ 5- 6- 60	6 5 5 6	6 5 5 6	6 5 5 6	6 6 6 6	6-	6 6 6 6	5 6	4 6	5	5 5	(4) 3			
25	6- 4+ 6- 6+	6 4 5 6	6 4 5 6	6 4 5 6	6 6 6 6	5+	6 6 6 6	6 7	5 5	6	6 6	(4) 2			
26	6+ 5- 6- 6-	6 5 6 6	6 5 6 6	6 5 6 6	5 5 5 5	6-	5 5 5 5	6 7	6 6	7	6 6	2 3			
27	5- 2+ 4+ 4+	5 3 2 4	5 3 2 4	5 3 2 4	4 4 4 4	(4-)	4 4 4 4	4 5	4 4	5	2 2	(6) (5)			
28	4- 3+ 5+ 5+	2 2 4 6	2 2 4 6	2 2 4 6	5 5 5 5	(4+)	5 5 5 5	6 6	3 5	6	3 3	3 2			
29	6+ 5+ 6- 6+	5 5 6 6	5 5 6 6	5 5 6 6	6 6 6 6	6-	6 6 6 6	6 7	5 5	6	4 4	3 2			
30	7- 50 60 6+	6 5 6 6	6 5 6 6	6 5 6 6	6 6 6 6	60	6 6 6 6	7 6	6 6	6	5 5	3 1			
31	6+ 5- 6- 6+	5 5 6 5	5 5 6 5	5 5 6 5	4 4 4 4	6-	4 4 4 4	7 7	6 6	7	5 5	2 2			
Score: Quiet Periods															
P 12 12 16 17															
S 8 6 6 7															
U 1 0 1 1															
F 3 1 1 2															
Disturbed Periods															
P 2 5 0 2															
S 2 6 3 2															
U 2 1 3 0															
F 1 0 1 0															

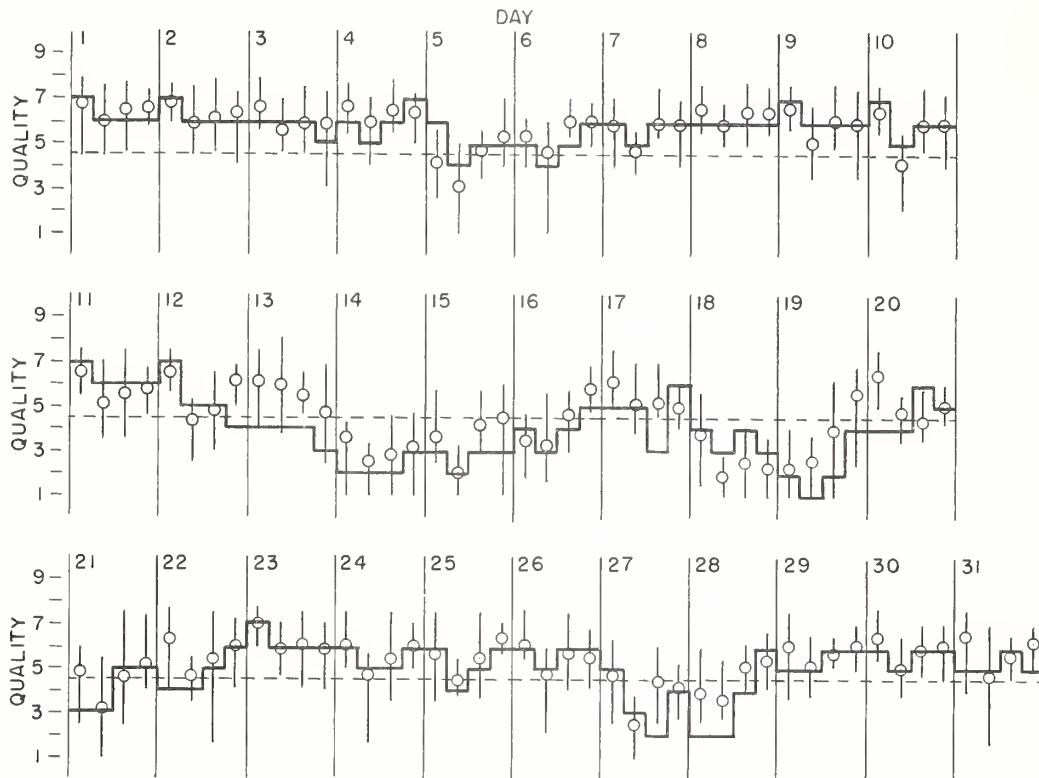
() Represent disturbed values
All times are Universal Time (U.T.)

JULY 1961

— Short-term forecast

o Quality figure

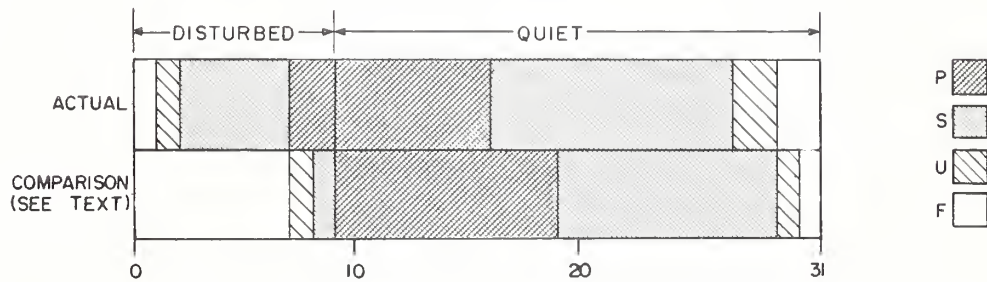
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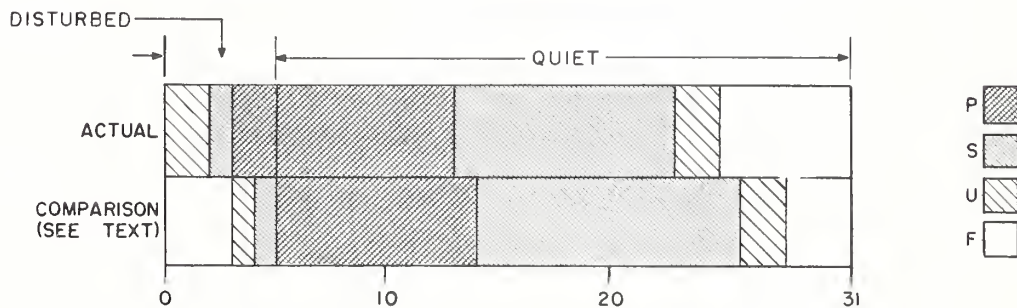
OUTCOME OF ADVANCED FORECASTS

FINAL ESTIMATE

NORTH ATLANTIC

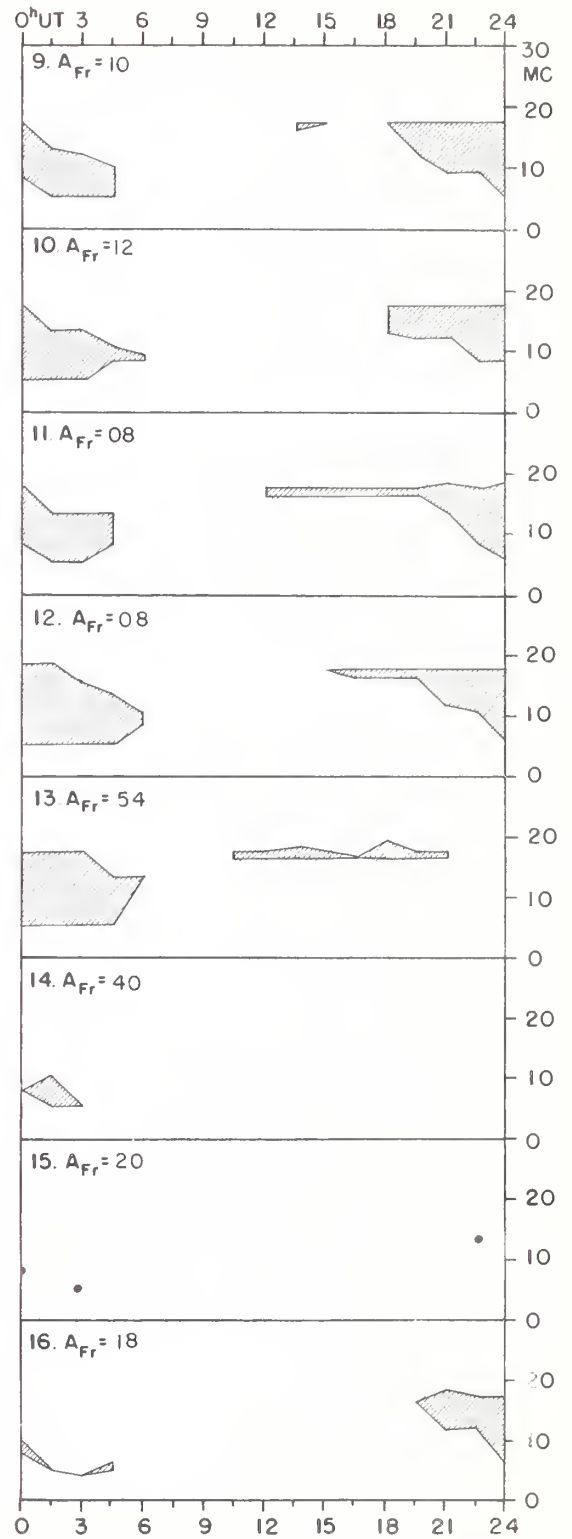
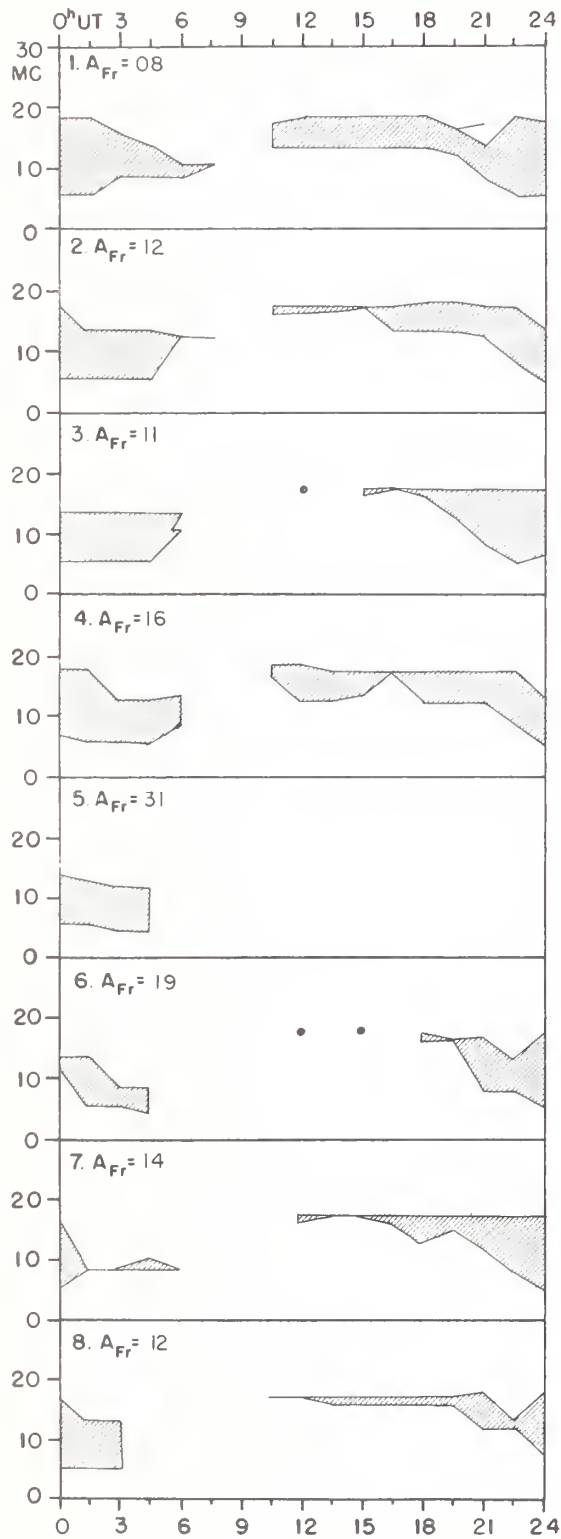


NORTH PACIFIC



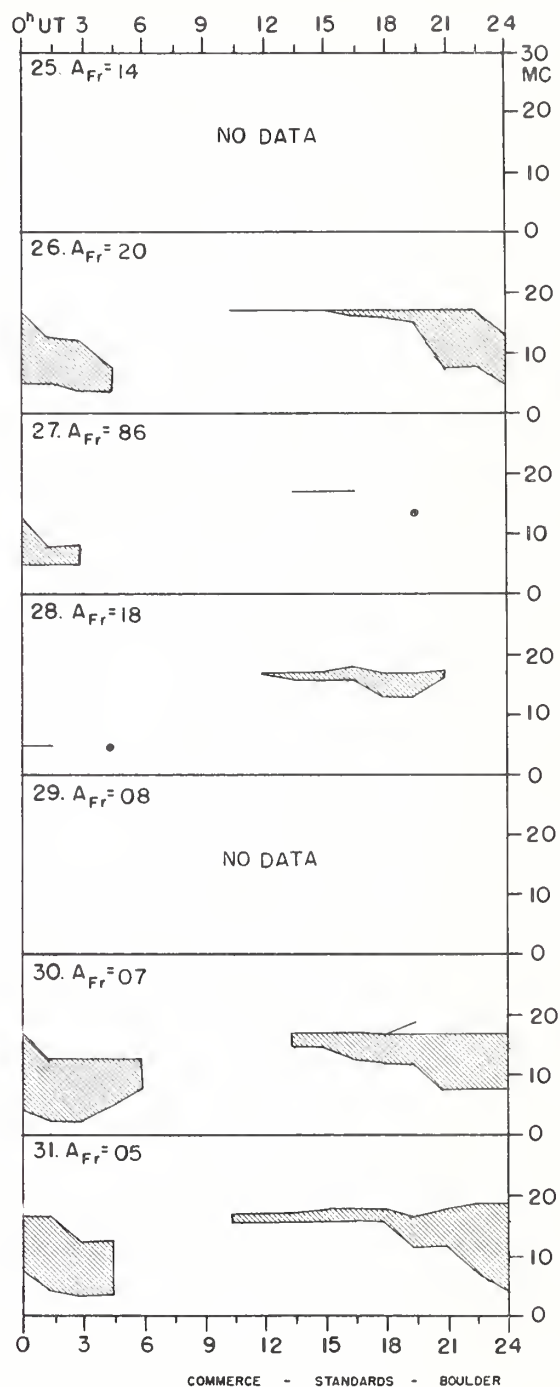
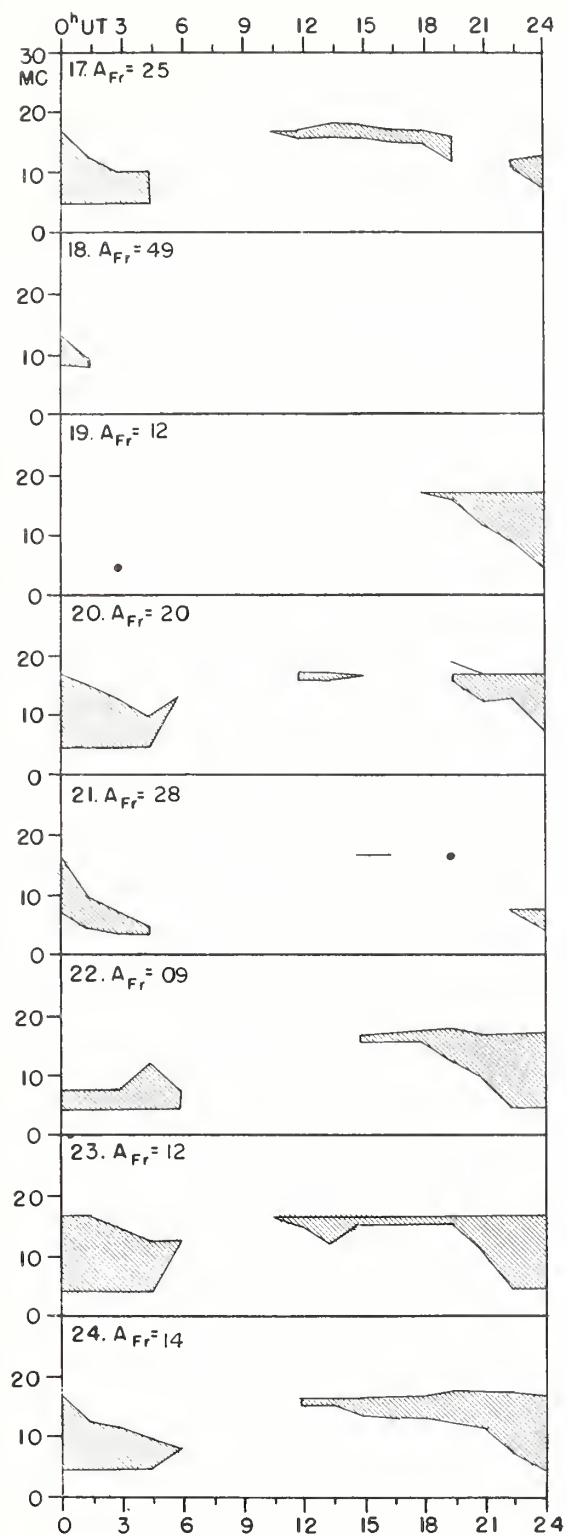
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JULY 1961



ALERT PERIODS AND SPECIAL WORLD INTERVALS

INTERNATIONAL WORLD DAY SERVICE

AUGUST 1961

Issued August 1961 Day/Time UT	Advance Geophysical Alert	No.	World-Wide Geophysical Alert	Special World Interval
02/0510	Ft. Belvoir, Magnetic Storm 01/23XXZ	137	Magnetic Storm 01/23XXZ	
02/1600				
30/1250	Ft. Belvoir, Magnetic Storm 29/17XXZ	138	Magnetic Storm 29/17XXZ	Start
30/1600				
31/1600		139		Finish

COMMERCE - STANDARDS - BOULDER

Erratum:

In CRPL-F 204B issued August 1961 on page VIIIA, the advance geophysical alert issued July 13, 1961 at 1605 should have read Chicago, Cosmic Ray decrease 13/11XX instead of increase.

